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ABSTRACT

An evaluation of voluntary education programs sponsored by the military services focused on how servicemembers' educational needs are determined and undergraduate education services are provided. Using 19 standards originally developed by the Joint Committee on Standards for Educational Evaluation, the General Accounting Office (GAO) analyzed the services' needs assessment processes. At 10 Army, Air Force, and Navy installations in Europe visited by the GAO, the military services identified the programs or courses servicemembers desired to take largely through informal day-to-day contacts among students, educational program officers, and instructors. This information was supplemented through surveys of servicemembers. The study found that educational services in Europe could be delivered feasibly under the multiple supplier system or under the single provider system that the Air Force has adopted. The decision as to which of the two systems to use revolved largely around questions of competition in the selection of schools and advantages or disadvantages of having more than one institution offer the same courses. (Appendixes, amounting to almost one-half of the report include profiles of community colleges and universities providing undergraduate programs in Europe and the evaluation standards checklist and evaluation results.) (YLB)

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United States General Accounting Office

GAO

Report to Congressional Committees

December 1987

DOD VOLUNTARY EDUCATION

Determining and Meeting Postsecondary Education Needs in Europe

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United States
General Accounting Office
Washington, D.C. 20548

Human Resources Division

B-229280

December 15, 1987

The Honorable Sam Nunn
Chairman, Committee on
Armed Services
United States Senate

The Honorable Les Aspin
Chairman, Committee on
Armed Services
House of Representatives

This report, prepared pursuant to a requirement in the Department of Defense Authorization Act of 1986 (Public Law 99-145), discusses the overseas education programs of the military services. As agreed with your committees, we examined how the military services are (1) developing their current needs assessments and (2) providing postsecondary education in Europe.

We are also sending copies of the report to other interested congressional committees; the Secretaries of Defense, the Army, the Air Force, and the Navy; and other interested parties.

Richard L. Fogel
Assistant Comptroller General

Executive Summary

Purpose

Under Department of Defense (DOD) policy, military servicemembers are to have educational opportunities similar to those available to other U.S. citizens. Consequently, the Army, Navy, and Air Force sponsor programs that permit military personnel to pursue educational, vocational, and career goals while on active duty. This includes postsecondary education provided to personnel overseas through 2- and 4-year academic institutions. During the 1984-85 academic year, more than 150,000 students enrolled in these programs in Europe.

Concerned about how best to meet the educational needs of military personnel, the Congress, through the 1986 Department of Defense Authorization Act, directed GAO to study voluntary education programs overseas. GAO agreed with the Senate and House Armed Services Committees to evaluate how the military services are (1) determining their members' educational needs and (2) providing undergraduate education services in Europe.

Background

Beginning with the Army in 1949, the military services have made undergraduate education programs available at their installations in Europe. Each installation is required by DOD to annually identify servicemembers' educational needs. To meet these needs, the services then select academic institutions to provide courses at each installation. Today, seven schools offer undergraduate programs at more than 170 installations in Europe.

Prior to 1984, the services used a multiple provider system. Each service entered into noncompetitive agreements or contracts with a number of schools to provide all courses in a particular academic program, such as liberal arts or aeronautics, at an installation. At any installation with more than one school offering programs, each school might offer similar core courses (such as English composition).

In a January 1980 report, the Council on Postsecondary Accreditation cited a number of concerns about the quality of the military's program in Europe, including unnecessary competition among providers and duplication of courses. A DOD review in late 1981 concluded that new acquisition procedures were needed for postsecondary education programs in Europe.

In 1984, the Air Force began to use a single provider system that does not permit schools to offer similar core courses as did the multiple provider system. Rather, the schools compete for the right to be a sole provider of certain courses. Contracts awarded through this new method include specific requirements intended to improve the overall quality of the postsecondary education program in Europe.

GAO did its review at 10 Army, Air Force, and Navy installations in Europe. With the aid of expert consultants, GAO analyzed the services' needs assessment processes, using 19 standards originally developed by the Joint Committee on Standards for Educational Evaluation (see pp. 14-15).

Results in Brief

Although the needs assessment processes at the 10 military installations GAO visited varied in scope, focus, and methodology, they generally met the standards GAO applied.

With its new delivery system, the Air Force has (1) reduced competition for students among schools at the base level, (2) received extended commitments from the schools to provide education services, and (3) included a number of quality-related requirements in its competitively bid contracts. During the new system's first year (academic year 1984-85), the cost of completing a degree program increased slightly for both the service and its members. In part, the cost increase is due to the reduced role of 2-year schools (which generally have lower tuitions than 4-year schools).

GAO's Analysis

Servicemembers Educational Needs Being Assessed

At the 10 installations GAO visited, the military services identified the programs or courses servicemembers desired to take largely through informal day-to-day contacts among students, education program officers, and instructors. This information was supplemented through surveys of servicemembers. In general, the services conducted activities that GAO consultants considered essential to the needs assessment process. For example, the services identified their audiences and gathered valid information with which to assess educational needs (see ch. 2). GAO did not assess the quality of the education programs provided to satisfy the needs identified.

Effects of New System

By adopting the single provider system and awarding contracts to schools to provide courses in specific program areas, the Air Force aimed to eliminate competition for students at the installation level. These contracts also required a 4-year commitment by the schools and included quality-related requirements lacking in previous agreements.

While the Air Force's new system gives the servicemember the opportunity to obtain the same type of degrees as under the multiple provider system, it increased the cost of completing those degrees to both the service and its members. The cost per student enrollment in the Air Force rose 8 percent between 1984 and 1985, from $135 to $146. During the same period, the Army's cost remained the same, $141 per enrollment. The Air Force's increase was due in part to the higher tuition charged by the 4-year university for lower level (generally freshman and sophomore) liberal arts courses offered the prior year by 2-year institutions.

The role of 2-year schools in providing services to Air Force members in Europe was reduced under the single provider system. In the fall of 1983, 35 percent of Air Force servicemembers and 38 percent of Army servicemembers were enrolled at 2-year institutions. In 1984, with the Air Force's new system, its enrollments in 2-year colleges decreased to 13 percent of undergraduates, while the Army's enrollment in such institutions increased slightly to 40 percent. The decrease came about in part because the single provider system limits the servicemember's choice of school for lower level liberal arts courses. The remaining Air Force and Army enrollees were in 4-year institutions (see pp. 26-29).

Recommendations

GAO is making no recommendations. Whether a service should use the single or multiple provider system relates to whether competition is needed in the selection of schools and whether there are nonmeasurable advantages or disadvantages to having more than one institution offer the same or similar lower level courses. GAO believes these questions should be resolved by policy makers after additional experience is gained under the Air Force's single provider system.

Agency Comments

DOD concurred with GAO's findings and discussed recent actions relating to postsecondary education services overseas. It said the Air Force is maintaining detailed data which, combined with Army data, will permit the services to make an ongoing review of costs and usage by type of provider before the next contract negotiations begin (academic year

1989-90). DOD stated that the Air Force is negotiating contracts for educational programs in the Pacific for academic year 1988-89 and that recently issued guidance promotes neither the single nor the multiple provider system. Rather, bids are to be solicited from both 2- and 4-year institutions.

GAO furnished a draft of this report to the two primary undergraduate education providers in Europe—the University of Maryland (a 4-year institution) and City Colleges of Chicago (a 2-year institution). City Colleges provided comments. While not disagreeing with GAO's conclusions, it suggested a number of revisions to more clearly reflect the differences between the Air Force and Army procurement systems. City Colleges concluded that GAO had collected enough information to show the superiority of the Army's multiple provider system. GAO believes further experience and data collection are needed.

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Abbreviations

AY	academic year
COPA	Council on Postsecondary Accreditation
DOD	Department of Defense
ESO	education service officer
FY	fiscal year
GAO	General Accounting Office
OSD	Office of the Secretary of Defense
RFP	request for proposal
SKAs	skills, knowledge, and abilities

Chapter 1

Introduction

Over 350,000 active-duty U.S. military personnel are stationed in Europe. These personnel along with Department of Defense (DOD) civilian employees and their respective dependents are located at over 170 major military installations throughout Europe. DOD requires each of the services to establish educational programs that provide opportunities to its personnel to achieve educational, vocational, and career goals, believing that military servicemembers should share the same educational opportunities available to other citizens.

To satisfy this requirement, the respective military services have established (1) the Air Force Education Services Program, (2) the Army Continuing Education System, and (3) the Navy Campus. These education programs offer studies ranging from basic skills such as improving reading and communication skills through graduate work. In this report, we discuss the portion of the programs dealing with voluntary undergraduate education provided on military installations in Europe.

Voluntary Education Programs Offered by the Military

The military services have provided voluntary undergraduate education services to military personnel overseas since the late 1940s. Over the years, these services were acquired from various 2-year or community colleges and 4-year institutions through agreements awarded noncompetitively.

As an incentive for servicemembers to participate in the education programs, the services provide tuition assistance for up to 75 percent of the servicemembers' costs. In 1985, the military provided over $16 million in tuition assistance for its members in Europe. DOD civilian employees, their dependents, and servicemembers' dependents may participate in the program on a space-available basis, paying their own tuition.

A local military installation operates its education program out of an education center headed by a DOD civilian education service officer (ESO) or education specialist. Additional civilian staff usually consist of education counselors and administrative personnel. Normally, the academic institutions have a full-time registrar working at each military education center. These personnel assist the ESOs with course scheduling, student registration, and related tasks. The ESOs have the final authority to approve all courses offered and any cancellations that must be made. The school registrars act primarily as advisors to the ESO and represent their employing institutions.

ESOs at local military installations have other responsibilities as well. Depending on the military service, their duties can include academic testing, basic skills enhancement training, military training, and educational counseling. At some Army education centers, for instance, the undergraduate program can amount to less than one-third of ESOs' total workload.

Each school operating in Europe maintains a central staff responsible for certifying and assigning faculty, preparing course schedules, maintaining academic records, shipping text books to installations, and generally overseeing their programs. The overseas faculty comprises both full-time professional educators on leave from stateside campuses or permanently living abroad and part-time instructors hired locally.

Air Force and Army Act to Change Procurement Practices

In December 1982, the Air Force implemented changes to its voluntary education program to correct deficiencies noted in studies completed by the Council on Postsecondary Accreditation (COPA) and the Office of the Secretary of Defense (OSD) in 1980 and 1981, respectively. These studies basically criticized the military departments for the quality of the voluntary education programs. As a result, in 1983 U.S. Air Force headquarters in Europe issued a request for proposal (RFP) and subsequently awarded contracts that changed the way voluntary postsecondary education services were obtained in Europe.

The Air Force's new procurement method, referred to in this report as the "single provider system," was more formal than the procedures previously used. According to an Air Force official, prior to the new contracts there was no competitive bidding by academic institutions to provide programs. Instead, the official said, the chief of the Educational Program Branch would invite to Europe representatives of certain schools he believed could offer programs needed by Air Force personnel. The schools that agreed signed a basic agreement or contract and began operations where education officials directed. This arrangement is referred to in this report as the "multiple provider system."

Under the new Air Force procurement procedures, academic institutions had to bid competitively for the right to offer courses in various undergraduate program areas such as liberal arts, business, and aeronautical technology. To be awarded a contract in one or more areas, an institution had to offer a baccalaureate degree. This requirement by the Air Force resulted in restricting individual community colleges from competing to offer certain general education and liberal arts courses that were

part of their individual academic programs. However, a community college could bid in consortium with a 4-year school to provide these services.

The University of Maryland now provides all liberal arts and general education requirement classroom courses at Air Force installations in Europe, and one community college—City Colleges of Chicago—provides all vocational and technical courses. Two other 4-year schools—Embry Riddle Aeronautical University and Southern Illinois University—were awarded contracts to offer courses in aeronautics and industrial technology, respectively. Thus, a student completing a degree in vocational education, aeronautics, or industrial technology must take the program's required liberal arts and general education requirements from the University of Maryland.

There is, however, an exception to the delivery of lower level (freshmen and sophomore) liberal arts courses. City Colleges of Chicago, in addition to providing vocational education courses, contracted to provide all video cassette courses that would lead to an associate degree awarded by that school. These include both lower level liberal arts and vocational education courses.

The Army also attempted to change its procurement of undergraduate education services. In November 1984, the Army command in Europe issued three RFPs that, if implemented, would have resulted in a method similar to the Air Force's for providing such services. But the RFPs were withdrawn because the Congress, responding to community colleges' concerns about their diminishing role in providing undergraduate education for the Armed Services in Europe, intervened by amending the 1986 Department of Defense Authorization Act. Section 1212(a) of the act provides for open competition between community colleges and 4-year institutions to provide voluntary postsecondary services overseas. As a result, schools providing undergraduate services to Army personnel in Europe include

- Big Bend Community College,
- Central Texas College,
- City Colleges of Chicago,
- Embry Riddle Aeronautical University, and
- University of Maryland.

See appendix I for profiles of schools providing undergraduate services in Europe.

Objectives, Scope, and Methodology

The 1986 Department of Defense Authorization Act (Public Law 99-145, November 8, 1985) required us to review the voluntary education programs of the military services. We were to examine how best to meet the educational needs of military personnel, Department of Defense civilian employees, and their dependents while ensuring choice of and diversity in educational offerings and providers at the most reasonable cost to individual participants.

The act specifically required us to determine

- the educational needs of members of the Armed Forces of the United States and civilian DOD employees stationed outside the United States and the educational needs of the dependents of such members and employees and
- the most effective and feasible means of meeting such needs and the cost of providing such services.

Because of the newness of the Air Force program and the limited first-year data available at the time of our review, we agreed with the Senate and House Armed Services Committees to examine how the military services are (1) developing their current needs assessments and (2) providing postsecondary voluntary education in Europe.

In conducting our study, we visited 10 military locations in Europe: 5 Air Force installations—4 in Germany and 1 in Spain; 4 Army military communities in Germany; and 1 Navy installation in Spain. (See table 1.1.) We judgmentally selected the locations according to (1) the size of the installation, (2) whether the installation provided voluntary postsecondary education services to remote or geographically separate sites, and (3) the portion of the respective service's European program enrollments or tuition assistance payments the location represented. Army, Navy, and Air Force officials said the locations provided a representative picture of their voluntary postsecondary education program in Europe.

We evaluated the educational needs assessment process for each of the three services. However, we discuss how services were provided in Europe for only the Army and Air Force because they acted to change their delivery systems. According to Navy officials, the Navy program is small in terms of enrollments and the amount of tuition assistance it provides compared with the other two services. We did not assess the quality of the education programs provided by the systems.

Table 1.1: U.S. Military Installations in Europe Visited During GAO Review

Installation	Country	Service
Lindsey Air Station	Germany	Air Force
Ramstein Air Base	Germany	Air Force
Rhein Main Air Base	Germany	Air Force
Torrejon Air Base	Spain	Air Force
Zweibrucken Air Base	Germany	Air Force
Baumholder Community	Germany	Army
Frankfurt Community	Germany	Army
Stuttgart Community	Germany	Army
Wuerzburg Community	Germany	Army
Rota Naval Air Station	Spain	Navy

In addition to interviewing officials of the Departments of Defense, Army, Air Force, and Navy, we interviewed officials of academic institutions that currently provided postsecondary educational services overseas or had expressed an interest in doing so and representatives of associations representing these institutions. Our review was done between July 1985 and August 1986 in accordance with generally accepted government auditing standards.

We sought comments on a draft of this report from the Department of Defense and from the two primary undergraduate education providers—the City Colleges of Chicago and the University of Maryland. Written comments were received from DOD and the City Colleges of Chicago and are included as appendixes II and III.

Using an evaluation instrument that we developed with the aid of an expert in the field of education research and evaluation, we analyzed the services' needs assessment processes. The instrument is based on evaluation standards developed by the Joint Committee on Standards for Educational Evaluation (see ch. 2 and app. IV for a more detailed description of the standards). According to the chairman of the committee, these standards could be applied to assess the services' needs assessment.

We considered 19 of the committee's 30 standards to be appropriate in our needs assessment context and developed specific questions to obtain information to determine if the standards were met. Our questions focused on (1) the types of needs assessment procedures that could be followed at military bases, (2) the final product or report detailing

results of the assessment, and (3) the use of needs assessment results for program planning.

Our needs assessment instrument was reviewed by nine experts (see app. V) in the needs assessment and evaluation fields. The reviewers generally agreed that the 19 standards we selected were applicable to our purposes and that the questions we developed relative to the standards were appropriate for evaluating the services' needs assessment processes. Where appropriate, we revised the instrument in response to the reviewers' comments.

The intent of the instrument was to describe each service's needs assessment process. This included

- identifying the type and quality of data collected and the extent to which information was used in educational planning,
- determining the degree to which the needs assessment process conformed to our needs assessment standards, and
- providing the services with prescriptive information on procedures to improve the needs assessment process.

For each military installation we visited in Europe, we completed a needs assessment checklist, using information available from documents collected and interviews conducted at each installation. (See ch. 2 and app. IV for a detailed discussion of our procedures.)

Determining Undergraduate Educational Needs of Military Personnel in Europe

DOD requires the military services to have their installations conduct a needs assessment for use in planning voluntary educational programs. The services depend primarily on informal day-to-day contacts between students, instructors, and education service officers to identify the educational needs of service members. The information obtained is used to estimate program and class enrollments for the coming year. The only major difference among the Air Force, Navy, and Army planning processes is that the Army alone uses a standardized survey instrument at all of its European installations to determine these educational demands. We found that the services generally included in their assessment processes the factors considered by experts to be necessary for a needs assessment. For example, the services were identifying their audiences, the information on which assessments were done was valid, and the individuals performing the assessments were qualified.

Needs Assessment Provides Basis for Educational Planning

Educational needs assessment is the foundation for meaningful and cost-effective educational programs, according to the DOD directive that governs voluntary educational programs for military personnel (DOD Directive 1322.8, Feb. 4, 1980, rev. July 23, 1987). The respective military services' regulations implementing their voluntary education programs state that needs assessments should be completed for educational planning purposes. However, needs assessment varies among the services in scope, focus, and methodology.

Air Force's Needs Assessment

Air Force regulations require that educational needs assessments be done annually or when a major population change occurs. The role of these assessments, however, is limited because many voluntary education needs are identified by Air Force regulations.

To assess educational needs, Air Force ESOs survey students, the general population of the base, and newly arriving servicemembers as well as track students' academic progress. The majority of ESOs we talked to also emphasized the importance of day-to-day informal contact among students, instructors, ESOs, and guidance counselors. Such contacts, which occur when students come to the education center to be counseled, register for courses, and apply for tuition assistance, give center staff the opportunity to gather information on students' interests and needs.

The reliability of this data in indicating student preferences was emphasized by Air Force ESOs. One ESO gave the example of an institution's

field representative who said she was hearing a lot of interest from her students in taking an electronics course. Although the education center's survey information showed little interest in the course, the center decided to offer the course, and it did attract sufficient enrollments.

Air Force regulations define many of the needs to be met by base education centers. For example, each center is required to offer the general education courses needed to complete an Associate of Applied Science degree from the Community College of the Air Force. Also, the regulation requires that physics, chemistry, and mathematics courses be offered at least once a year.

Army's Needs Assessment

The Army's educational needs assessment process is similar to the Air Force's. As with the Air Force, a key tool in the process is informal communication about educational needs or preferences among students, instructors, guidance counselors, registrars, and the ESO. Information on educational needs gathered through daily contacts is the best for planning purposes, the Army headquarters officials in Europe responsible for educational planning told us.

In addition, however, the Army introduced in the fall of 1985 a new standardized education demand survey, now used by all its installations in Europe to gather information on which to base annual course schedules. The survey examines demand, not need, according to its accompanying instruction manual. Army ESOs had mixed reactions to the survey. One of its benefits, according to some ESOs, was that it gathered new information about what time during the day students preferred classes to be scheduled. Among negative comments from ESOs were that it was too time-consuming and told them nothing new.

Navy's Needs Assessment

According to the education specialist at the one Navy location we visited, the installation's primary method of needs assessment is the day-to-day contact he has with the students. It also does one formal survey a year, he said, which produces few surprises.

At this Navy installation, the academic institutions were also actively engaged in needs assessment. One institution's registrar surveys different portions of the base population at least yearly. He also depends on direct student input as well as information he develops on where the concentrations of upper level students are. Another institution's registrar said he tracks his school's current students' academic progress to

determine what courses they would need. He also does an annual survey of the base's population, he said.

Evaluation of Military's Needs Assessment Process in Europe

We reviewed the needs assessment processes at five Air Force, four Army, and one Navy location in Europe, using 19 standards. These standards were originally developed by the Joint Committee on Standards for Educational Evaluation to guide the evaluation of educational programs, projects, and materials. According to the committee's chairman, the standards are applicable to the evaluation of needs assessments. (See table 2.1 for the standards and app. IV for a discussion of them and the methodology used in applying them for this study.)

Table 2.1: Needs Assessment Standards Used in GAO Review

Category	Definition	Standards
Utility	To what extent does the needs assessment process focus on the appropriate population, address relevant questions, obtain relevant information, report it clearly, and assist in the use of the information?	Audience identification Evaluator credibility Information scope and selection Report clarity Report dissemination Report timeliness Impact
Feasibility	To what extent is the needs assessment process cost-effective and workable in real world settings? Is the process operable in the setting in which it is to be applied, and is it realistic, prudent, diplomatic, politically viable, and frugal?	Practical procedures Political viability Cost-effectiveness
Accuracy	To what extent has the needs assessment produced sound information? Are the data technically adequate and are the conclusions derived logically from the data?	Group identification Context analysis Described purposes and procedures Defensible information sources Validity Reliability Systematic data control Justified conclusions Objective reporting

Application of Needs Assessment Standards

The Joint Committee on Standards for Educational Evaluation believed that the relative importance of individual standards would differ from situation to situation and recommended that all standards be considered equally important until they could be ranked in the context of a particular situation. In addition, determining whether a particular standard has been addressed is a subjective decision.

To determine if an installation's needs assessment process satisfied the requirements for each of the committee's standards, we developed questions designed to measure the presence or absence of these requirements at each installation. If we determined that the requirement was present at the installation, a "positive" response was recorded for that standard. For example, to meet the "information scope and selection" standard in the "utility" category, we identified several requirements for the standard. They included:

- Are data collected from groups concerning their preferences for either specific programs or courses?
- Are data on base population characteristics such as educational level/background, military/nonmilitary status, etc., collected?

If we found all requirements for each standard present on an installation, we judged that standard to be met at a 100 percent level. (See app. VI for the degree to which each standard was addressed by the three services.)

In the following sections, we provide examples of how the services' needs assessment processes addressed a selected standard in each of two categories: utility and accuracy.

Utility Category

The "information scope and selection" standard under the "utility" category was addressed by the services' needs assessment processes in a variety of ways. For example, the Air Force collected data from military servicemembers, civilian DOD employees, adult family members, students, unit and base commands, guidance counselors, registrars, and field representatives. However, the way the information was collected varied from base to base. All installations we visited collected data on currently enrolled students and used it to determine, among other things, course and program preferences and scheduling times. Several ESOs tracked student academic progress.

At Torrejon Air Force Base, for example, student tracking was a requirement of the education center. As a result, the schools tracked juniors' and seniors' progress to document what courses they were taking and needed. The institutions also tracked the course cycle or pattern of individual courses to assure that they were offered in the proper sequence. The student tracking and course histories enabled the education center's staff to ensure that student program needs were being met.

Another method used by Air Force education centers was the collection of historical data on individuals. At Zweibrucken Air Base, the ESO collected data on the educational level of servicemembers by service category.

At the four Army installations, our review of needs assessments showed that they met the "information scope and selection" standard by using the Army's new voluntary education demand survey, supplementing the survey data with information from a number of individuals other than currently enrolled students. Each of the four ESOs told us that they interviewed education center staff, students, base/unit commanders, academic institutional representatives, and registrars. To gain a complete picture of the education needs on the base, the senior ESO at the Wuerzburg Community said, the new survey should be supplemented with a random sample of the base population.

The Navy met the "information scope and selection" standard at Rota, Spain, by using information gathered by the education specialist. For example, the education specialist talks to every seaman applying for tuition assistance and consults with the base's commanding officer before adding a program.

Accuracy Category

The "group identification" standard, which we included under the "accuracy" category, measured whether the services' needs assessments identified the beneficiaries of their educational programs, such as

- military servicemembers,
- civilian DOD employees,
- adult family members,
- students,
- institutions/field representatives, and
- unit/base commanders.

Of the five Air Force installations' needs assessment processes, four surveyed currently and recently enrolled students and other eligible personnel. At Lindsey Air Force Base, for example, the ESO conducted a 100-percent survey of all new arrivals on base, reviewed base population data, and periodically assessed students currently enrolled. Most ESOs obtained data from currently enrolled students, the schools' field representatives, counselors, and/or students. At the fifth installation this information was collected but never tabulated.

At all four Army installations, the needs assessment process included surveys of currently and recently enrolled students, and three locations also surveyed other eligible personnel. The ESO at one installation supplemented the new voluntary education demand survey to more fully document such needs. To do so, he reviewed students' past performance, assessed the composition of military occupation specialties on the base, and administered local interest surveys to students, counselors, and servicemembers.

At the Navy installation, currently enrolled students are also surveyed. Also, one academic institution providing service on the base conducts a base-wide survey once a year.

Chapter 3

Meeting Undergraduate Educational Needs of Military Servicemembers in Europe

Until academic year (AY) 1984-85, the Army and Air Force employed multiple provider systems for providing undergraduate services. In response to criticisms raised by the Council on Postsecondary Accreditation (COPA) and the Department of Defense, the Air Force instituted a single provider system to reduce the competition for students among academic institutions at the base level. The Air Force also received extended commitments from schools to provide these education services and included a number of quality-related requirements in its competitively bid contracts.

During that academic year, the Air Force's change to a single provider system resulted in (1) an increased cost of completing a degree program for both the service and its members and (2) a reduced role for 2-year institutions in providing undergraduate education services in Europe.

Voluntary Education Programs Criticized in Prior Studies

Both the academic community and DOD have criticized the military departments for the quality of their voluntary educational services and procurement practices in obtaining the services.

The OSD asked COPA, which establishes policies and practices in postsecondary accreditation, to conduct a study of postsecondary education on military bases. In its final report of January 1980, COPA listed a number of concerns about the military's voluntary postsecondary education program, including

- unnecessary competition among schools and duplication of programs,
- institutions without long-term status on many installations, and
- no system to help assure the quality of educational programs on military installations.

Among COPA's recommendations was that OSD review and revise its practices for procuring the services of educational institutions to provide programs at military installations. The Secretary of Defense conducted such a review in late 1981 and concluded that all services needed to develop and implement new acquisition procedures for the European program as soon as possible.

Air Force Responds to Criticism With New Single Provider Delivery System

In AY 1984-85, the Air Force responded to the criticisms with several changes to its procedures for acquiring education services in Europe. Air Force officials said the changes were intended to achieve three goals:

- Decrease competition among academic institutions for the limited number of students at the base level, with the belief this would result in lower course cancellation rates;
- Extend the time institutions must commit to providing undergraduate education services to prevent them from abruptly terminating their programs; and
- Improve the overall quality of the undergraduate programs in Europe.

Provider Competition at Installations Reduced

The Air Force adopted a single provider system in part to eliminate competition for students among schools at the installation level. This competition was cited as a problem in both the COPA and OSD reviews. In the past, program duplication at installations had not been a problem, Air Force officials said. The problem arose because in some programs, whether offered by a 2- or 4-year school, some similar lower level liberal arts courses such as English composition and history were required. At an installation with various schools operating, different schools were providing lower level courses (generally freshman and sophomore) that were basically the same. To avoid this course duplication, the Air Force competitively awarded a contract to the University of Maryland to offer all undergraduate courses in liberal arts, humanities, and the social/behavioral sciences. These were the courses viewed by the Air Force as most likely to be duplicated.

In total, the Air Force has contracted with four academic institutions to provide courses in specific undergraduate and vocational education areas (see table 3.1). Under the new system, City Colleges of Chicago, Embry Riddle Aeronautical University, and Southern Illinois University may offer specific classroom courses in selected program areas. They may not, however, offer lower level freshman and sophomore liberal arts courses needed to complete a degree in those program areas. Such courses may be offered only by the University of Maryland.

Table 3.1: Academic Institutions and Program Courses Offered Under Contract With Air Force

City Colleges of Chicago	Embry Riddle Aeronautical University	Southern Illinois University	University of Maryland
Vocational technology Video cassette program including selected lower level liberal arts courses	Aeronautics	Industrial technology	Liberal arts Business/ management Library orientation Computer technology Behavioral and social sciences Humanities Technology and management

Commitments From Schools Extended

Under the new competitive contracts, the Air Force required a commitment on the part of academic institutions to offer educational services for 4 years. Awarding multiyear contracts benefits the servicemember and the institution. The commitment deters institutions from abruptly terminating programs and, according to an Air Force official, makes educational planning and resource allocation easier for the institutions.

Prior to this change, the negotiated agreements permitted academic institutions to discontinue providing educational services at their discretion. Since 1949, eight institutions have ceased such services in Europe. When this happens, students are left with partially completed degrees.

Improving Quality of Education

To achieve its goal of improving educational quality, the Air Force included in its new competitively bid contracts a number of specific quality-related requirements that had not existed in previous agreements used to acquire undergraduate education services. The schools now must

- develop and implement an annual self-evaluation study,
- assure that their instructors in Europe possess an academic background that would qualify them to teach the same courses on their home campus, and
- provide library materials to support courses they offered.

The lack of such requirements was identified by COPA in its 1980 report.

Effect of Change to Single Provider System

Under the Air Force's single provider system, servicemembers can earn the same undergraduate degrees as under the multiple provider system. However, the new system (1) increased the cost of completing a degree to both service and servicemember and (2) reduced the role at the Air Force's European installations of 2-year schools, which can no longer provide certain lower level liberal arts courses.

Cost to Both Air Force and Servicemembers Rises

The new system has made it more expensive for an Air Force servicemember to complete a 2-year degree offered by a community college. This is because lower level liberal arts courses required to satisfy program requirements must be taken from the 4-year school, which has higher tuition rates. For example, if a servicemember could complete all 63 credit hours needed for an associate degree in civil technology at a 2-year school, the total tuition cost would be $3,402. Under the single provider system, however, the total cost increased by $697 to $4,099. The higher cost to the service assumes the servicemember receives 75 percent in tuition assistance, as shown in table 3.2. Also, this illustration assumes all courses are classroom courses.[1]

Table 3.2: Increased Cost of 2-Year Degree to Service and Servicemembers Under Single Provider System (Academic Year 1984-85)

Type of institution attended	Tuition (credit hour)	No. of credit hours required for degree	Tuition	Gov't. share (75 percent)	Cost to service-members
Combination					
2-year	$54	22	$1,188		
4-year	71	41	2,911		
Total		63	$4,099	$3,074	$1,025
2-year only	54	63	3,402	2,552	850

Thus, the increased cost to the government for a student attending a combination of 2- and 4-year schools for a degree in civil technology is over $500 ($3,074 - $2,552 = $522).

Tuition Subsidy Per Enrollment Increases

During the first year, tuition per enrollment increased under the Air Force's single provider system. Between AY 1983-84 and 1984-85, the Air Force average subsidy rose 8 percent from $135 to $146 (see table 3.3).

[1]Students may complete their study in liberal arts courses for an associate degree using video cassettes from the 2-year institution and transfer courses from other institutions, which could result in lower costs. According to DOD, in fiscal year 1986 the Air Force had 4,000 enrollments in video cassette courses.

Tuition assistance per enrollment paid by the Army during the same period remained the same at $141.

Table 3.3: Average Tuition Subsidy Per Enrollment (Academic Years 1983-84 and 1984-85)

Service/academic year	Tuition assistance (in millions)	Enrollments	Tuition assistance per enrollment
Air Force:			
AY 1983-84	$5.4	40,237	$135
AY 1984-85	6.6	44,805	146
Army:			
AY 1983-84	7.3	51,735	141
AY 1984-85	8.1	57,691	141

Two factors contributed to the rise in the Air Force subsidy: (1) the schools increased their tuition rates between academic years 1983-84 and 1984-85 and (2) all lower level liberal arts and general education requirement classroom courses were provided by a more expensive 4-year school in AY 1984-85.

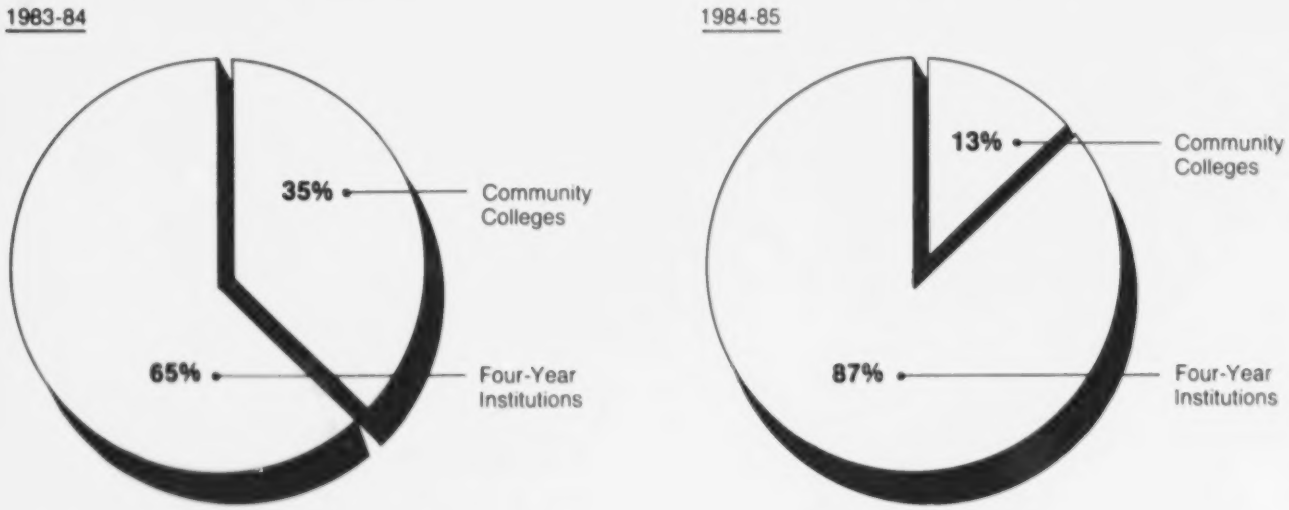
Role of 2-Year Colleges Reduced

Prior to implementation of the single provider system, the distribution of enrollments between 2-year and 4-year schools at Air Force installations in Europe was somewhat similar to their distribution in the United States. For instance, in 1983 and 1984 about 40 percent of undergraduate enrollments in the United States were at 2-year schools. With the advent of the single provider system, the 2-year schools' role in providing educational service to Air Force personnel in Europe has greatly diminished. In AY 1983-84, 2-year schools accounted for 35 percent of the Air Force's European enrollments; in AY 1984-85 this decreased to 13 percent, as figure 3.1 shows.

In part, the decrease came about because the single provider system limits the servicemember's choice of school for lower level liberal art courses. Under the Air Force's new system, Air Force personnel cannot complete an entire associate degree program at a 2-year school offering courses at an Air Force installation. Depending on the program selected, the number of courses offered can vary, e.g.:

- If a servicemember wants to complete an associate degree in civil technology from City Colleges of Chicago, which is under contract with the Air Force, he or she must satisfactorily complete the 63 credits required by the school. Under the current contract between the Air Force and the

Figure 3.1: Air Force European Enrollments in 2- and 4-Year Schools Compared (Academic Years 1983-84 and 1984-85)



2-year school, however, the school is authorized to offer only 22 (35 percent) of the required credits. The remaining credits must be earned through courses offered by a 4-year school (the University of Maryland). This example assumes that all courses are classroom courses.

- By contrast, of 60 semester hours required for an associate degree in auto technology, 48 (80 percent) can be offered by the City Colleges of Chicago.

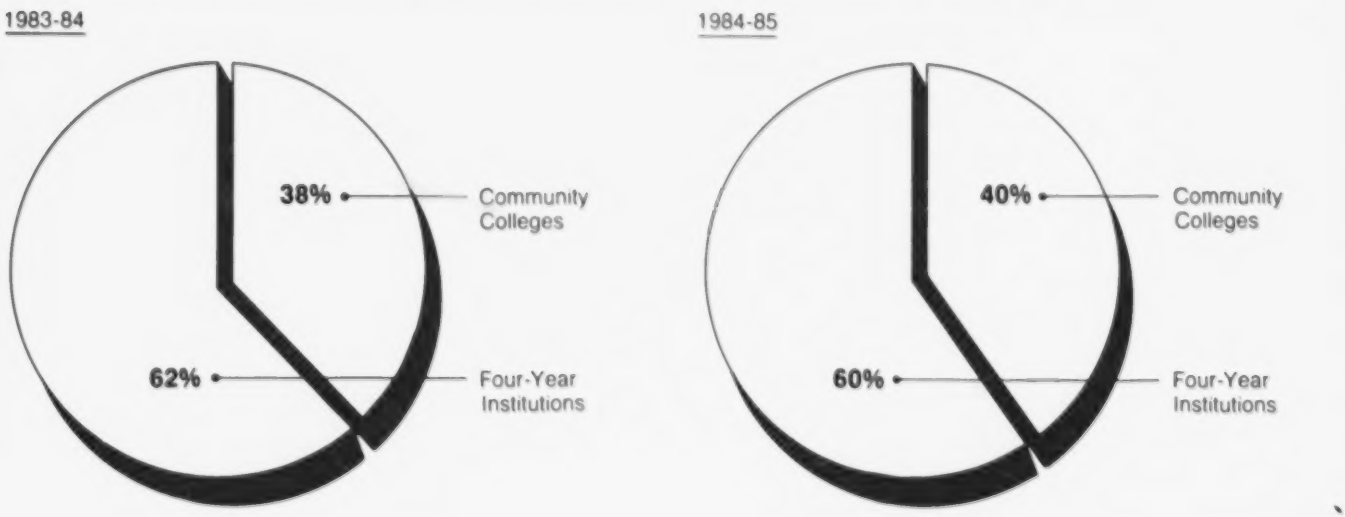
An overall decline in the number of vocational courses also contributed to the decreased enrollments in 2-year schools, according to Air Force officials. One official said that airmen are just not as interested in completing vocational degrees as they once were. We observed from the data that the five Air Force installations we visited scheduled few or no vocational courses. Also, ESOs told us that the new vocational provider—City Colleges of Chicago—was experiencing difficulties starting up programs at a number of bases. This was because the school had little experience in conducting some of the more traditional vocational programs, e.g., welding, electronics, and auto mechanics. Prior to being awarded the

vocational contract, the institution had offered mostly lower level general education requirements and vocational programs that did not require extensive equipment and laboratories, Air Force officials said.

We observed these start-up difficulties at one base at which the institution scheduled about 10 classes in a term and conducted only one. According to the ESO at the base, the institution did not put enough effort into developing its schedules, resulting in an excessive course cancellation rate.

The Army, which did not change its delivery system and continues to offer servicemembers the option of completing a degree at a 2-year school, experienced an increase of 2 percent in the community colleges' portion of total enrollment between academic years 1983-84 and 1984-85, from 38 to 40 percent (see figure 3.2).

Figure 3.2: Army European Enrollments in 2- and 4-Year Schools Compared (Academic Years 1983-84 and 1984-85)



From Army enrollment data for AY 1984-85, we estimate that, had community colleges only provided vocational courses (as was the case in the

Air Force), their portion of Army enrollments would have decreased from 40 to 20 percent.

Comparability of Program Performance Data Limited

Performance by the Air Force and the Army in delivering undergraduate education in Europe could be measured by such factors as course cancellation rates and number of courses conducted. However, the methods the services use to determine if a class is to be conducted differed, as did the criteria included in these methods. As a result, the comparison of the Air Force's and Army's program performance data was limited for academic years 1983-84 and 1984-85.

Air Force

The Air Force used an average per class enrollment figure to decide if courses were to be conducted. This was determined at each installation by dividing the total number of students by the total number of classes the students were enrolled in. If the class average was 20 in academic year 1983-84 and 15 in 1984-85 the courses were conducted. If the installation average was lower, the schools could request the ESO to cancel courses to raise the average to the contract minimum.

Data were not available to calculate what the cancellation rate would have been in academic year 1984-85 had the class average remained at 20. As a result, we were not able to determine a precise percentage increase or decrease in cancellation rates between the two years. However, we believe that the data are sufficient to support general observations about the overall trend in course cancellation rates.

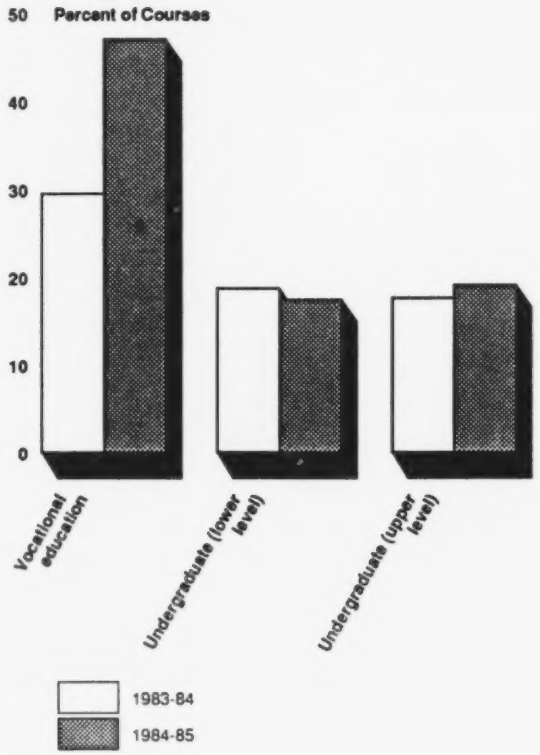
Cancellation Rates

The Air Force cited a desire to decrease course cancellation rates as a reason for using a single provider system. However, the overall course cancellation rate increased from 21 to 23 percent between the last academic year (1983-84) of the multiple provider system and the first year of the single provider system (1984-85). We believe that the Air Force probably would have incurred a higher rate in 1984-85 had the average enrollment requirement not been reduced from 20 to 15. This is because a certain number of classes held in 1984-85, when the average was 15, likely would have been cancelled to raise the average to 20.

Course cancellation rates for vocational education, and upper and lower lever undergraduate courses for academic years 1983-84 and 1984-85 are shown in figure 3.3. While the rate for lower level undergraduate courses decreased, that rate as well as the other rates likely would have

been higher had the average class size remained at 20. Also, the higher cancellation rate for vocational courses in 1984-85 was due, in part, to the start-up difficulties experienced by the new vocational provider (see pp. 27-28).

Figure 3.3: Air Force European Course Cancellations (Academic Years 1983-84 and 1984-85)

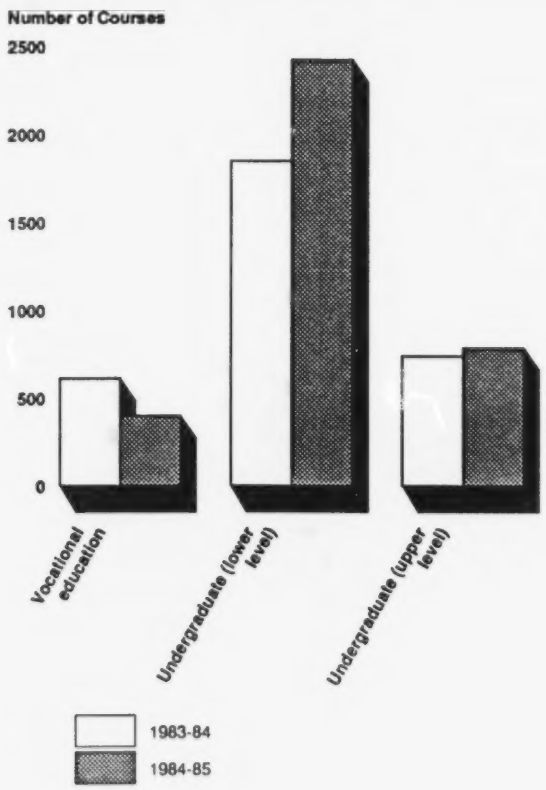


For the first four academic terms of AY 1985-86, cancellation rates decreased in all categories of courses between academic year 1984-85 and 1985-86. The vocational education rate was down from 47 to 42 percent. Cancellations in the undergraduate lower level courses in the first year (17 percent) decreased less than 1 percent in the first four terms of the second year; the upper level undergraduate cancellation rate (19 percent) decreased 4 percent in the first four terms of the second year.

Enrollment and Courses Conducted

Air Force enrollments in undergraduate and vocational education courses grew by 23 percent between academic years 1983-84 and 1984-85. This contrasts with only a 3 percent increase during the preceding academic year (1982-83). Also, the Air Force education centers reported an overall 14 percent increase in the number of courses conducted at their facilities, including a substantial increase in lower level undergraduate courses, as figure 3.4 shows. While the higher student enrollment contributed to the increase in lower level undergraduate courses conducted, we believe that the overall increase would not have been as large had the Air Force not reduced its class size criteria.

Figure 3.4: Air Force Courses Conducted
(Academic Years 1983-84 and 1984-85)



The increase in the lower level undergraduate courses was particularly significant, according to Air Force officials, because the majority of students were enrolled in those courses. Also, the officials expressed satisfaction that more upper level undergraduate courses were being

conducted; this is traditionally the most difficult area in which to offer courses because of fewer students enrolling in a particular course.

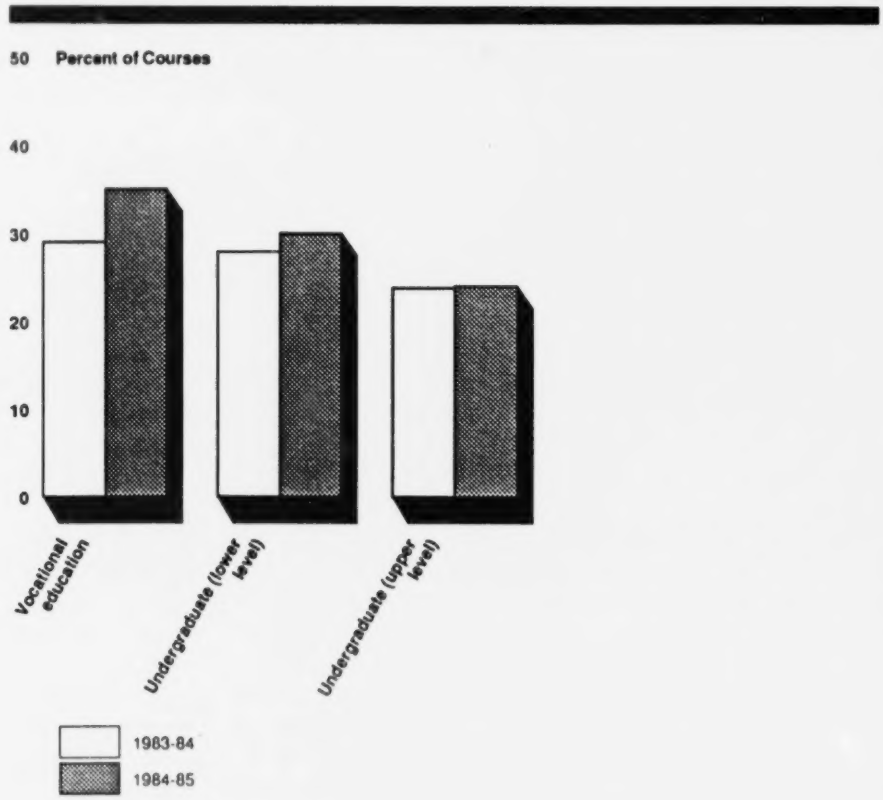
Army

The Army also used an average class enrollment minimum to determine whether classes would be conducted or cancelled. However, the average was developed on a regional rather than individual installation basis and differed between schools. Also, schools had the option of conducting courses with a lower number of students than the negotiated minimum.

Cancellation Rate

The Army's cancellation rates for vocational and lower level undergraduate courses increased between academic years 1983-84 and 1984-85, as shown in figure 3.5.

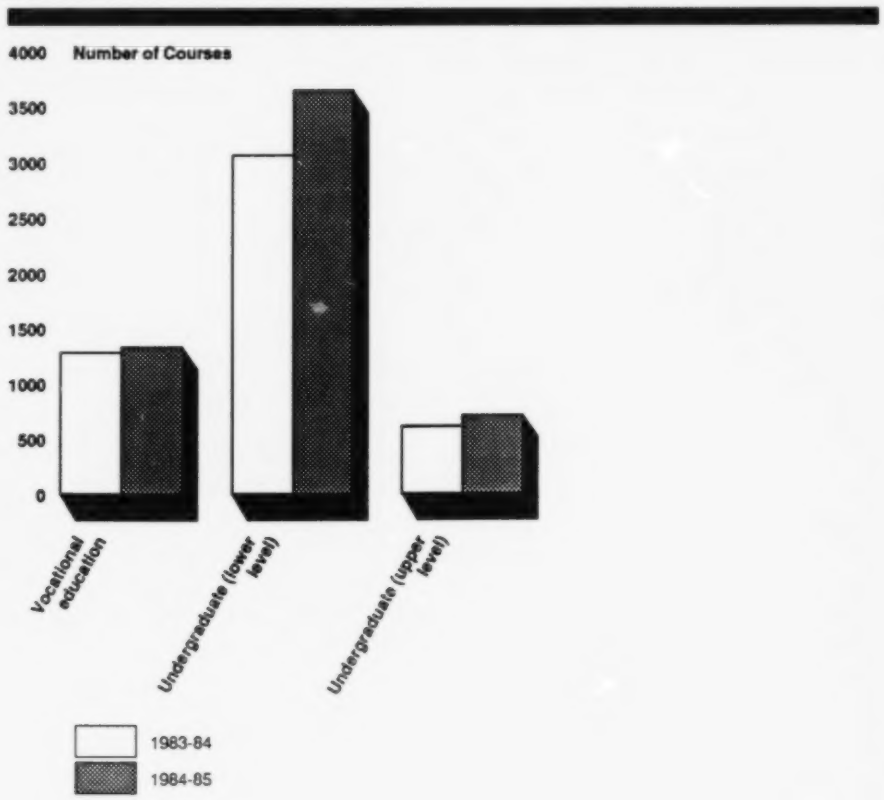
Figure 3.5: Army European Course Cancellations (Academic Years 1983-84 and 1984-85)



Enrollment and Courses Conducted

The Army's number of enrollments and courses conducted at its European installations increased between academic years 1983-84 and 1984-85. Overall, the Army had a 10 percent increase in enrollments, from 72,296 to 79,736. The number of courses conducted on Army installations in AY 1984-85 increased over the previous year in all three course categories, as figure 3.6 indicates.

Figure 3.6: Army Courses Conducted
(Academic Years 1983-84 and 1984-85)



Services' Support Costs

Army and Air Force cost data in support of postsecondary education programs differed because of methods used by the respective services to determine support costs. Also, the Air Force could only provide cost data on a fiscal year basis. Since the Air Force implemented a single provider system, its support costs decreased an estimated 32 percent.

The Army's support costs for its undergraduate program decreased slightly, by 2 percent, between academic years 1983-84 and 1984-85.

Air Force support costs included:

- Transportation costs for moving instructors, their dependents, and administrators from the United States to Europe and back and for travel within Europe to support voluntary education;
- Shipping costs for moving instructors' and administrators' household goods to and from Europe, and may include transportation of classroom and laboratory equipment; and
- Postage costs for mailing first-class letters, textbooks, and authorized office supplies in direct support of classroom instruction.

In fiscal year 1984, the last year covering the multiple provider system, Air Force support costs were about $172,000. In fiscal year 1985, the first year the single provider system was in effect, support decreased by $35,000 to about $137,000. An Air Force official estimated that logistical costs would decrease about $20,000 (15 percent) in fiscal year 1986 to about $117,000. Air Force combined support costs for both undergraduate and graduate schools for fiscal years 1984-86 are shown in table 3.4.

Table 3.4: Air Force Postsecondary Education Support Costs (Fiscal Years 1984-86)

	Fiscal year		
Category	**1984**	**1985**	**1986[a]**
Transportation	$108,188	$81,727	$71,400
Shipping	15,000	14,875	26,100
Postage	49,133	40,639	19,500
Totals	**$172,321**	**$137,241**	**$117,000**

[a]Estimated

For the Army's postsecondary education program, estimated support costs decreased between academic years 1983-84 and 1984-85. As table 3.5 shows, overall costs decreased 6 percent while the costs associated with the undergraduate program remained relatively stable.

Table 3.5: Army Postsecondary Eduction Support Costs (Academic Years 1983-84 and 1984-85)

	Academic year		Decrease	
Program	**1983-84**	**1984-85**	**Amount**	**Percent**
Undergraduate	$2,073,010	$2,030,233	$42,777	2
Graduate	1,004,663	866,216	138,447	14
Totals	**$3,077,673**	**$2,896,449**	**$181,224**	**6**

The Army's total logistical and administrative cost was much higher than the Air Force's, because the Army's program is much larger and because of its method of estimating its program costs. In addition to using the actual cost of travel and shipment of household goods to determine the administrative and logistical cost for each school, the Army included such factors as (1) housing, estimated at $5,400 per government housing unit occupied, (2) government-furnished equipment from the January 1983 General Services Administration supply catalog with prices amortorized over 5 years, and (3) government-furnished office and storage space at $5.36 per square meter. Also included in the Army's costs were estimates for logistical support provided contract employees (i.e., commissary and exchange privileges, recreation facilities, military postal service, officers club, and privately owned vehicle license and registration) at $5,463 per contractor employee.

Conclusions

Education services in Europe can be delivered feasibly under either a single or multiple provider system. Comparability of data between the services and between academic years for the respective services is limited and does not permit a conclusion as to which system is more effective. Servicemembers can earn the same type of degrees under either system, although they may need to attend courses at two different academic institutions under the Air Force system. Also, the Air Force systems is somewhat more expensive for the service and servicemembers.

The two systems differ primarily in the role of the academic institutions as providers of education services. Under the Air Force system, the institutions compete for the right to be sole provider of certain courses. Under the Army system, the same course may be offered by two or more institutions which then compete for enrollments among the finite number of servicemembers at a European installation. Therefore, a decision to use a single or multiple provider system revolves largely around the questions of whether competition is needed in the selection of schools and whether there are nonmeasurable advantages or disadvantages to having more than one institution offer the same or similar lower

level courses. In our opinion, these questions should be resolved by the policy makers after additional experience is gained under the Air Force single provider system.

Agency Comments and Our Evaluation

DOD and the City Colleges of Chicago provided written comments on a draft of this report.

DOD Comments

In its comments (see app. II), DOD concurred with our findings and discussed recent actions relating to postsecondary education services overseas. DOD stated that the Air Force single provider system needs to go through a complete cycle before its efficacy can be evaluated. Also, the Air Force is maintaining detailed data that, when combined with the Army data, will permit the Air Force to conduct a review of costs and usage by provider type before the next contract cycle begins. According to DOD, Air Force data show that the average annual cost increase per enrollment for the 5 years prior to the implementation of the new system was 7.8 percent. During the 2 years of the new contract, the increase was 7.5 percent, a slight decrease under the new system.

DOD plans to review the issues dealing with competition in the selection of schools and the duplication of courses by 2- and 4-year institutions as it monitors the program. Also, the Air Force is in the process of negotiating for new contracts to provide postsecondary education services in the Pacific for school year 1988-89. DOD stated that the guidance issued to the military departments for this acquisition did not promote either the single or multiple provider system but solicitation of bids from both 2- and 4-year institutions in accordance with procurement procedures.

City Colleges of Chicago Comments

City Colleges did not disagree with the report's conclusions. However, City Colleges suggested a number of revisions that it believed would clarify the differences between the Air Force and Army's procurement systems. City Colleges' comments and our evaluation follow.

1. City Colleges stated that the report erroneously implies that the Air Force single provider system differentiates among providers based upon specific program areas. According to City Colleges, the system should be

described as segmenting services by level of provider, because institutions have to offer a baccalaureate degree to be awarded a contract to offer courses in any area other than vocational education.

As we discuss on pages 11-12, while it was a requirement that a successful bidder offer a baccalaureate degree, the Air Force's RFP recognized that schools in consortium may bid to provide specific courses in one or more of the program areas listed in the proposal, such as aeronautics, liberal arts, or industrial technology. In fact, City Colleges, in conjunction with a 4-year institution, submitted a bid in response to the RFP.

2. City Colleges said that the new requirements included in the Air Force's present contracts (such as a long-term commitment to provide services and the provision of library materials to support the courses offered) could have been incorporated in any procurement method. Prior to implementation of the Air Force's single provider system, City Colleges' agreement with the Army was amended to incorporate similar requirements, the school said.

We analyzed the two procurement systems but did not independently evaluate individual system attributes. However, we agree that the inclusion of the requirements mentioned are independent of the kind of procurement system used, and the services' agreements could have been amended to include such requirements without changing the method of competition or the number of schools providing services in any curriculum or program.

3. City Colleges stated that the Air Force and Army contracts define minimum class size requirements (i.e., the number of enrolled students needed for a class to be conducted) differently. These provisions are independent of whether the single or multiple provider system is used, City Colleges said, and therefore should not be compared.

We acknowledge that the Army and the Air Force differ in the way they compute contractual class enrollment minimums and revised the report accordingly (see p. 29).

4. City Colleges stated that there is no correlation between the reduction in program support costs and the implementation of the single provider system as we suggest in the report. They said that the Air Force has for some time been implementing a methodical reduction in support services to institutional providers, including transportation, shipping, and postage. It also said that any measurable decrease in support costs was

because the reimbursement for administrative travel was eliminated during the last quarter of the past two fiscal years.

While the total decrease in program support cost is not attributable to the implementation of the single provider system, an undeterminable amount is. Under the multiple provider system, the Air Force provided support to six different institutions; with the implementation of the single provider system the Air Force provides support to only four schools. Also, according to an Air Force official in Europe the 2 fiscal years mentioned by City Colleges in its comments are subsequent to the period our report covers.

According to Air Force officials, the government has not methodically reduced support services, including transportation, shipping, or postal services, to institutions. They in fact maintain that although not contractually required they have provided additional logistical support including (1) providing administrative space for the institutions, (2) arranging for the authorization of the institutions to use intratheater official mail channels, and (3) providing Air Force funded intratheater travel for instructor and administrative staff. The Air Force also stated that logistical costs have decreased because it only has to reimburse one school for travel to various locations to oversee the delivery of courses rather than a number of schools offering the same or similar courses.

5. City Colleges believes there was no significant difference in course cancellation rates between the Air Force's last year under the multiple provider system and the first year of its single provider system. These changes were comparable to the Army's cancellation rates during the same period, City Colleges said.

As we state in the report (see p. 29) and earlier in our evaluation of City Colleges comments (see no. 3) we believe that available data were not sufficient to determine whether a significant difference existed in cancellation rates between services or between academic years for the individual services.

6. City Colleges said that our report notes a substantial increase in undergraduate courses under the Air Force's new system and a concomitant decrease in vocational education courses. It suggested that this change is the result of the reclassification as "undergraduate" of a large number of courses previously classified as "vocational" or otherwise unclassified.

Reclassification may be one of the reasons for the Air Force's decrease in the number of vocational courses and the increase in lower level undergraduate courses scheduled. However, as table 3.6 shows, the number of vocational courses scheduled in 1984-85 decreased from the previous year at a rate less than the increase in the number of lower level undergraduate courses scheduled. Also, while the number of Air Force vocational classes scheduled decreased 14 percent in 1984-85, there was a 35-percent decrease in the courses actually conducted. In addition, there was a significant increase in the total number of courses offered between academic years 1983-84 and 1984-85. The Air Force scheduled 4,028 courses in 1983-84 compared with 4,639 courses in 1984-85—a 15-percent increase. Therefore, it appears that reclassification was not as significant an issue as was the large percentage of vocational classes not conducted as scheduled during the period.

Table 3.6: Air Force Undergraduate Courses Scheduled and Conducted
(Academic Years 1983-84 and 1984-85)

	No. of courses		Difference between academic years	
	AY 1983-84	AY 1984-85	Number	Percent
Courses scheduled:				
Vocational	863	744	(119)	(14)
Lower level undergraduate	2,271	2,928	657	29
Upper level undergraduate	894	967	73	8
Totals	**4,028**	**4,639**	**611**	**15**
Courses conducted:				
Vocational	608	394	(214)	(35)
Lower level undergraduate	1,846	2,413	567	31
Upper level undergraduate	737	782	45	6
Totals	**3,191**	**3,589**	**398**	**12**

7. City Colleges expressed concern that our report said it experienced difficulties in starting up vocational programs such as welding and auto mechanics. The single provider system created a disruption within its structure that could not be instantly corrected, City Colleges said, and the problem was worsened by poor forecasting of demand for courses by the Air Force.

While City Colleges has extensive experience in delivering specialized vocational courses, as stated above, it agreed that certain start-up problems existed. Poor forecasting of demand for vocational courses by the Air Force was in part the reason for the high vocational course cancellation rate. However, as chapter 2 discusses, needs determination is a cooperative effort between the services and the institutions.

8. City Colleges believes that the information included in our report is more than sufficient to show the superiority of the Army's multiple provider system.

We continue to believe that further experience and data collection are needed. As we discussed in chapter 1, only 1 year (AY 1984-85) of program data on the Air Force single provider system was available at the time of our review. Further, we could not contrast the Air Force's first year data on such performance factors as cancellation rates and courses conducted with its previous year data or with Army program data. DOD in its comments (see app. II) states that the Air Force is maintaining detailed data that it believes, when combined with the Army data, will permit the Air Force to review costs and usage by provider type before the next contract cycle begins. We believe additional Air Force data should give the services a basis to evaluate the efficacy of the new Air Force system.

Profiles of Community Colleges and Universities Providing Undergraduate Programs in Europe

Big Bend Community College	
Home campus location:	Moses Lake, Washington
Began service in Europe:	1972
Degrees offered:	Associate in Applied Science
Programs offered:	Auto mechanics Drafting Electronics Food service Construction technology Recreation Welding Photography Engineer technology
Student enrollment for AY 1985-86:	1,137
Faculty for AY 1985-86:	
Full-time	0
Part-time	75
Tuition rate per semester hour for AY 1985-86:	$34 without lab 50 with lab
Accreditation:	Northwest Accreditation Association

(continued)

Central Texas College	
Home campus location:	Killeen, Texas
Began service in Europe:	1972
Degrees offered:	Associate degrees
Programs offered:	Applied management Automotive service and repair Automotive body repair Child development Communications electronics Computer electronics Computer science Drafting and design Food service management Law enforcement Office management Photography Welding Administrative/secretarial Air conditioning and refrigeration Consumer electronics Diesel mechanics Hotel/motel management Information systems management Small gas engines Telecommunications Applied management with technical options
Student enrollment for AY 1985-86:	32,848
Faculty for AY 1985-86:	
Full-time	130
Part-time	284
Tuition rate per semester hour for AY 1985-86:	
Air Force	$58
Army	58
Navy	44 without lab 66 with lab 40 welding classes
Accreditation:	Southern Association of Colleges and Schools

(continued)

City Colleges of Chicago	
Home campus location:	Chicago, Illinois
Began service in Europe:	1969
Degrees offered:	Associate in Arts Associate in Applied Science
Programs offered:	Accounting Architectural drafting Architectural technology Art Automotive technology Business administration Civil technology Data processing Electronics Emergency medical services Engineering technology Fire science Food management Health facilities management Law enforcement
Student enrollment for AY 1985-86:	Approximately 33,900
Faculty for AY 1985-86:	
Full-time	46
Part-time	210
Tuition rate per semester hour for AY 1985-86:	
Army	$23 Chicago resident 42 Video cassette 36 Audio cassette 65 Emergency medical services 60 Data processing 50 All other courses
Air Force	$23 Chicago resident 54 Vocational without lab 65 Vocational with lab 36 Video cassette (no instructor)
Navy	$23 Chicago resident 74 Emergency medical services 65 Data processing 65 Electronics 39 Video cassette (without instructor) 45 Video cassette (with instructor) 54 All other courses
Accreditation:	Northern Central Association of Colleges and Schools

(continued)

Embry Riddle Aeronautical University	
Home campus location:	Bunnell, Florida
Began service in Europe:	1970
Degrees offered:	Associate in Science Bachelor of Science Masters degrees
Programs offered:	Aircraft maintenance Professional aeronautics Aeronautical studies Aviation maintenance management Aviation business administration Aviation technology
Student enrollment for AY 1985-86:	5,261
Faculty for AY 1985-86:	
Full-time	4
Part-time	120
Tuition rate per semester hour for AY 1985-86:	
Air Force	$95
Army	80
Navy	85
Accreditation:	Southern Association of Colleges and Schools
Southern Illinois University	
Home campus location:	Carbondale, Illinois
Began service in Europe:	1982
Degrees offered:	Bachelor of Science
Programs offered:	Industrial technology
Student enrollment for AY 1985-86:	750
Faculty for AY 1985-86:	
Full-time	8
Part-time	16
Tuition rate per semester hour for AY 1985-86:	$109
Accreditation:	North Central Association of Colleges and Schools

(continued)

University of La Verne	
Home campus location:	Sepulveda, California
Began service in Europe:	1975
Degrees offered:	Associate in Arts Associate of Science Bachelor of Arts Bachelor of Science Masters degree
Programs offered:	General studies Italian studies Criminology Communications technology Digital technology Information systems technology Accounting Behavioral science Business management Business administration and economics Computer science and computer engineering Health care management Marketing Mathematics Political science Psychology Social science Sociology
Student enrollment for AY 1985-86:	2,186
Faculty for AY 1985-86:	
Full-time	9
Part-time	37
Tuition rate per semester hour for AY 1985-86:	$65
Accreditation:	Western Association of Schools and Colleges

(continued)

University of Maryland

Home campus location:	College Park, Maryland
Began service in Europe:	1949
Degrees offered:	Associate in Arts Bachelor of Arts Bachelor of Science Masters degree
Programs offered:	General curriculum Business and management Paralegal studies Anthropology Art history Computer studies Economics English Foreign languages Government and politics History Law enforcement/criminology Management studies Philosophy Psychology Sociology
Student enrollment for AY 1985-86:	114,799
Faculty for AY 1985-86:	
Full-time	747
Part-time	913
Tuition rate per semester hour for AY 1985-86:	
Air Force	$71
Army	73
Navy	71
Accreditation:	Commission on Higher Education of the Middle States Association of Colleges and Schools

Comments From the Department of Defense

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-4000

FORCE MANAGEMENT AND PERSONNEL

22 SEP 1987

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and
International Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "DOD VOLUNTARY EDUCATION: Determining and Meeting Postsecondary Educational Needs in Europe," dated July 10, 1987 (GAO Code 104566/OSD Case 7345). The Department concurs with the report findings. The Department has taken some recent actions in this area, as follows:

The Air Force, as the executive agent for the Services educational programs in the Pacific, is in the process of negotiating that contract for the school year 1988-89.

On April 3, 1987, the Assistant Secretary of Defense (Force Management and Personnel) issued guidance to the Military Departments for acquisition of voluntary education programs for military personnel overseas. The guidance does not promote either the single or multiple provider system; rather, it solicits from both two- and four-year institutions, in accordance with established acquisition procedures.

The GAO findings on changes in costs cancellation rates and enrollments between the Air Force and Army programs indicate that both systems took into account the educational needs of the Service members and the Department of Defense, and that there was no appreciable difference between the two programs. The GAO also concluded that competition in the selection of schools and duplication of courses at installations are DoD policy concerns. The DoD plans to review these issues prior to the 1989-90 contract negotiations. In addition, the Department will monitor the areas examined by the GAO on an on-going basis.

The detailed DoD comments on the GAO findings are provided in the enclosure. The Department appreciates the opportunity to comment on this draft report.

Sincerely,

David J. Armor
Principal Deputy

Enclosure:
As stated

GAO DRAFT REPORT - DATED JULY 10, 1987
(GAO CODE 104566) OSD CASE 7345

"DOD VOLUNTARY EDUCATION: DETERMINING AND MEETING POSTSECONDARY EDUCATION NEEDS IN EUROPE"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

FINDING A: Voluntary Education Programs Offered By The Military. The GAO reported that, under Department of Defense (DoD) policy, Military Service members are to have educational opportunities similar to those provided other U.S. citizens. The GAO noted that, beginning in the late 1940s, voluntary undergraduate education services have been provided to military personnel overseas. The GAO found that, as an incentive for Service members to participate, the Services provide tuition assistance for a minimum of 75 percent of the Service members' cost, and in 1985 provided over $16 million for tuition assistance in Europe. The GAO reported that prior to 1984, the Services used a multiple provider system. The GAO found, however, that the Office of the Secretary of Defense (OSD) requested the Council on Postsecondary Accreditation (COPA) to conduct a study of the DoD program, and in its January 1980 report, COPA listed a number of concerns, including:

- unnecessary competition among providers and duplication of programs;

- institutions on many installations with no long term status; and

- no system to help assure the quality of educational programs.

The GAO noted that among the study recommendations was that the OSD review and revise its practices for procuring the services of institutions providing this postsecondary education. The GAO reported that in late 1981, the Secretary of Defense conducted the recommended review and concluded that new acquisition procedures should be developed and implemented for the European educational program as soon as possible. (pp. 1-2, pp. 8-9, pp. 25-26/GAO Draft Report)

Now on pp. 2, 10-11, 22-23.

DOD RESPONSE: Concur. It should be noted, however, that Title 10, United States Code, section 2007, states that the Services may not pay more than 75 percent of the costs of an educational institution for a member enrolled during off-duty time. Title 10 provides an exception for enlisted members, E-5 or higher with less than 14 years service. They may receive up to 90 percent in tuition assistance. The draft report does not accurately reflect the statute, which sets maximum amounts rather than minimum levels as stated in the draft report. The DoD responses to Findings B and C are also germane.

FINDING B: Air Force Responds To Criticism With New Single Provider Delivery System. The GAO found that, in December 1982, the Air Force implemented changes to correct deficiencies noted by the above studies (which basically criticized the Military Departments for the quality of the voluntary education programs). The GAO reported that in order to (1) decrease course cancellations, (2) extend institutions' commitments, and (3) improve overall quality, in 1980, the Air Force started to use a single provider system that does not permit schools to offer similar courses: instead, the schools compete for the right to be the sole provider of certain courses. The GAO reported that the Air Force contracted with four academic institutions to provide courses in specific academic areas, and that the contracts included a number of specific requirements from the schools, including:

- a 5-year commitment;

- an annual self-evaluation study;

- assurance that instructors in Europe possess the academic backgrounds that would qualify them to teach the same course on the home campus; and

- the provision of library materials in support of courses.

The GAO observed that awarding multi-year contracts benefits both the Service member and the institution by ensuring that institutions cannot discontinue educational services, thereby leaving Service members with partially completed degrees, and (according to an Air Force officer) by making educational planning easier for the institution. (pp. 2-5, pp. 9-11, pp. 26-29/GAO Draft Report)

Now on pp. 2-4, 11-12, 23-24.

DOD RESPONSE: Concur. The 1980 version of DoD Directive 1322.8, "Voluntary Education Programs for Military Personnel," set standards for educational institutions conducting programs on installations. The Air Force followed these guidelines in selecting the institutions for its single provider system. In order to ensure that DoD continues to provide criteria for quality control, DoD Directive 1322.8 was revised and reissued on July 23, 1987. Enclosures 3 and 4 of the Directive provide standards for obtaining and selecting educational programs at installations.

FINDING C: Congressional Action And GAO Review. The GAO reported that the Army also attempted to change its procurement method and issued three requests for proposals (RFPs) that would have resulted in a method similar to the Air Force. The GAO found, however, that the RFPs were withdrawn because the

Congress, responding to community college concerns about their diminishing role in providing education for the Armed Services in Europe, amended the 1986 Defense Authorization Act to provide open competition between community colleges and 4-year institutions. The GAO reported that the Act also required the GAO to review the voluntary education programs of the Military Services. The GAO further reported that, because of the newness of the Air Force program and the limited first year data available at the time of its review, the Armed Services Committees agreed the GAO should evaluate:

- how the Military Services are developing their current needs assessments; and

- how postsecondary voluntary education is being provided in Europe.

In carrying out its review, the GAO visited ten installations in Europe, five Air Force, four Army and one Navy. The GAO noted that it had attempted to develop a data collection instrument for evaluating program performance, but found that much of the data considered critical (for instance, the characteristics of faculty) was not available and so it did not evaluate performance. (pp. 11-14/GAO Draft Report)

Now on pp. 13-15.

DOD RESPONSE: Partially concur. In selecting institutions to conduct programs on the installations, the Services rely on civilian accrediting associations to ensure that institutions meet high quality standards for academic programs and support services. In addition, DoD Directive 1322.8, "Voluntary Education Programs for Military Personnel," enclosure 4, sections D, I, and J requires the institution home campus to participate in faculty selection for the installation program, and maintain regular contact between institutions overseas and home campus personnel. The Department does not require that information on faculty workloads and credentials be maintained by the DoD Education Centers, either in the United States or overseas. Faculty qualifications are regulated by institutions and accrediting associations. Data relating to the standards and qualifications for faculty teaching in Europe are required by the Service contracts to be available from the institution representatives.

FINDING D: Needs Assessment Provides The Basis For Educational Planning. The GAO reported that a local military installation operates its education program out of an education center headed by a DoD civilian education service officer (ESO) or education specialist. The GAO observed that DoD Directive 1322.8 states that educational needs assessment is the foundation for meaningful and cost-effective educational programs, and that the Military Services, in their implementing regulations, state that needs assessments should be carried out. The GAO found that, at

the ten installations it visited, the Military Services identified the programs or courses Service members desired to take largely through informal day-to-day contacts among students, EPOs, and instructors. The GAO further found that the only major difference among the Air Force, Navy and Army planning processes is that the Army uses a standardized instrument to determine educational needs at all of its European installations. (The GAO noted that the Army introduced a new standard survey in the fall of 1985.) The GAO also found that Air Force regulations require that an assessment be done annually or when a major population change occurs, but that the role of these assessments is limited because many voluntary education needs (such as general education courses needed to complete an Associate of Applied Science degree from the Community College of the Air Force) are specified by regulation. (p. 4, p. 9, pp. 16-18/GAO Draft Report)

Now on pp. 3, 10, 16-18.

DOD RESPONSE: Concur.

FINDING E: Needs Assessment Standards Used In GAO Review. The GAO used 19 standards--originally developed by the Joint Committee on Standards for Educational Evaluation--to guide the evaluation of educational programs, projects, and materials. The GAO reported that these standards were directed at evaluating to what extent the needs assessment process focuses on the appropriate population, addresses relevant questions, obtains relevant information, reports it clearly, and assists in the use of the information. The GAO also indicated that these standards addressed the extent to which the needs assessment process was cost-effective and workable in real world settings and operable in the setting in which it was to be applied: Was it realistic, prudent, diplomatic, politically viable, and frugal? The standards the GAO used were also designed to show to what extent the needs assessment produced sound information, technically adequate data and conclusions derived logically from the data. At each installation the GAO interviewed program officials focusing on the types of needs assessment procedures followed at military bases, the final product or report detailing results of the assessment, and the use of needs assessment results for program planning. The GAO also collected relevant program data. (p. 3, pp. 14-15, pp. 19-21/GAO Draft Report)

Now on pp. 3, 14-15, 18-21.

DOD RESPONSE: Concur.

FINDING F: Services' Needs Assessments Generally Addressed Essential Aspects. Using its standards as a checklist at the ten installations, they found that the Services met these standards to a high degree. As examples, the GAO cited the "information scope and selection" standard in the "utility" category and the "group identification" standard in the "accuracy" category. The GAO found that, for the first, the Air Force needs assessment process collected data from Military Service members, DoD civilian employees, adult family members, students, unit and base commands, guidance counselors, registrars, and field

representatives. In addition, the GAO found that the Army installations also met this standard by using their new voluntary education demand survey and supplementing the survey data with information from interviews with education center staff, students, base/unit commanders, representatives of academic institutions, and registrars. The GAO found the standard was met by the Navy at Rota, Spain, by using information gathered by the education specialist. For example, the education specialist talked to every seaman applying for tuition assistance and consults with the base commanding officer before adding a program. With regard to the second standard, the GAO found that at most of the installations this standard was met by surveying currently and recently enrolled students and other eligible personnel. The GAO concluded from its survey that the factors considered by experts to be necessary for a needs assessment were generally included in the Military Services' assessment processes. (pp. 3-4, p. 161, pp. 21-24, pp. 65-66/GAO Draft Report)

Now on pp. 3, 18-21, 74

DOD RESPONSE: Concur.

FINDING G: Effect Of Air Force Change To A Single Provider System. The GAO reported that, while the new Air Force system provides the Service members the opportunity to obtain the same type of degrees as under the multiple provider system, it has increased the cost of completing that degree to both the Service and its members. The GAO found that the cost to a Service member to complete a 2-year degree offered by a community college has increased. Also, the GAO found that the cost per student enrollment to the Air Force rose 9 percent in 1985--to $146 from $135 in 1984. During the same period, the Army cost remained the same at $141 per enrollment. The GAO concluded that the Air Force increase was due in part to the higher tuition rates charged by the 4-year university for lower level liberal arts courses that were offered the prior year by 2-year institutions. In addition, the GAO found that, under the single provider system, the role of 2-year schools in providing services to Air Force members in Europe was reduced. The GAO cited, as an example, in the fall of 1983, 35 percent of Air Force Service members and 38 percent of Army Service members were enrolled at 2-year institutions; while in 1984, the Air Force enrollments in 2-year colleges decreased to 13 percent of undergraduates and the Army enrollments in such institutions increased slightly to 40 percent. (p. 3, pp. 5-6, p. 25, pp. 29-34/GAO Draft Report)

Now on pp. 3-4, 22, 25-29

DOD RESPONSE: Partially concur. The DoD supports the Air Force effort to develop and maintain a high quality educational program that provides access to educational programs for Service members overseas. Air Force data show that, for the five-year period prior to the new system, the average annual cost increase per enrollment was 7.8 percent; during the two years of the new contract, the increase was 7.5 percent, a slight decrease under the new system. The GAO used the least popular program (Civil Technology) to describe the number of courses required by the four-year school as opposed to the two-year school. A better

example would be the associate degree in Auto Technology. In this program, 60 semester hours are required, and 48 of those are offered by the two-year school. Rather than use a specific degree program as an example, a more appropriate analysis could be developed using a sample of several degree programs.

The video tape program offered by the City Colleges of Chicago offers all the general education courses for the baccalaureate degree and also offers a complete associate degree. Recent data show 4,000 enrollments in FY 1986, for a cost of $33 per semester hour, as opposed to the higher rates for classroom based courses conducted by both two- and four-year institutions. Over 8,000 enrollments are projected for this program in FY 1987.

In its calculations, the GAO has not taken into account the fact that the average enlisted student has 15 semester hours with the Community College of the Air Force, thereby reducing the cost of the associate degree for both the airman and the Air Force.

The Air Force provider system needs to go through a complete cycle before its efficacy is decided. The Air Force is maintaining detailed data in line with the GAO findings. That data base combined with the Army data will permit the Services to conduct an on-going review of costs and usage, by type of provider, before the next contract cycle begins.

FINDING H: First Year Data Shows Many Similarities Between Army And Air Force Performance. The GAO observed that, although limited by a one-year result, Air Force implementation of the single provider system in 1984-1985 provided an opportunity for comparison with both the Air Force 1983-84 multiple provider system results and the Army experience with the multiple provider system. The GAO found that, although the Air Force desired to decrease course cancellations, it experienced an overall increase in course cancellations, from 21 to 23 percent; while the Army rate rose from 28 to 30 percent. The GAO also found, however, that the Air Force cancellation rate for lower level undergraduate courses declined from 18.7 percent to 17.4 percent; while the Army cancellation rate rose from 28 to 30 percent. The GAO observed that the 17.5 percent increase in cancellations of vocational courses at Air Force bases was due in part to start-up difficulties experienced by the new provider. (The GAO also noted that both Services experienced increases in the rate of cancellation of vocational courses.) The GAO also found that data for the first four terms of the Air Force academic year 1985-86 showed cancellation rates decreasing in all categories.

The GAO reported that Air Force enrollments grew by 23 percent from academic years 1983-84 to 1984-85, while Army enrollments increased 10 percent. On the other hand, the GAO found that increases in numbers of courses increased 14 percent and 15 percent, respectively, for the Air Force and Army in these years.

7

The GAO observed that Air Force enrollment and course increases were partly due to the reduced required class average negotiated into the Air Force contract with the University of Maryland. In addition, the GAO found that (although the Air Force and Army do not use the same methods to determine such costs) Air Force postsecondary education support costs declined from $172,321 to $137,241; while Army costs declined from $3,077,673 to $2,896,449. The GAO found that the Services experienced comparable levels of performance in the delivery of postsecondary education in Europe as measured by such factors as course cancellation rates, enrollments and courses conducted. The GAO concluded that education services in Europe can be feasibly delivered using a single or multiple provider system, as the GAO comparison does not show that one system is more effective than the other. Noting Service members can earn the same type of degrees under either system, the GAO further concluded that a decision to use a single or multiple provider system revolves largely around the questions of whether competition is needed in the selection of schools and whether there are unmeasurable advantages to having more than one institution offer the same or similar lower level courses. In summary, the GAO concluded these are questions that should be resolved by the policymakers after additional experience is gained under the Air Force single provider system. (pp. 6-7, pp. 34-42/GAO Draft Report)

Now on p. 29-35.

DOD RESPONSE: Concur. The Department concern about the issues dealing with competition in the selection of schools and the duplication of courses by both the two-year and four-year institutions, will be reviewed by the DoD as it monitors the program.

Comments From City Colleges of Chicago

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August 17, 1987

Mr. Joseph J. Eglin, Jr.
Group Director
Human Resources Division
United States General Accounting Office
Washington, DC 20548

Re: DoD Voluntary Education: Determining and Meeting Postsecondary Educational Needs in Europe--Comments of the City Colleges of Chicago to the Draft of a Proposed Report

Dear Mr. Eglin:

The City Colleges of Chicago are pleased to have the opportunity to comment upon the draft of a proposed report entitled: "DoD Voluntary Education: Determining and Meeting Postsecondary Educational Needs in Europe" (Report).

While the City Colleges of Chicago concur with the conclusion that there is no material difference between the Air Force and Army modes of procurement of postsecondary educational services insofar as relates to the level or quality of services provided the users, we believe that the Report's findings that the Air Force sole provider mode of procurement has resulted in increased costs to the service and to servicemembers and a reduction in the role of the two year schools, without any concomitant significant improvement in the quality of service delivered, compel the conclusion that the Army's multiple provider mode of procurement is clearly preferable (Report, p. 29).

Now on p. 25

Based upon our review, we suggest that consideration be given to amending the draft Report in the following areas:

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1. The Air Force Mode of Procurement Does Not Deal with "Specific Program Areas."

The GAO report properly notes that the Air Force "single provider system" was designed "to eliminate competition for students between schools at the installation level..." (Draft, p. 5). However, the report errs in implying that the differentiation among providers is based upon "specific program areas." Quite the contrary, the Air Force system segments providers by gross level of service: all courses applicable towards baccalaureate degrees are provided by the sole "liberal arts" provider (the University of Maryland), leaving to the community college provider lower level courses that are not applicable towards baccalaureate degrees. Thus, the report correctly observes that:

> Under the Air Force's new system, Air Force personnel cannot complete an entire associate degree program at a 2-year school offering courses at an Air Force installation. For example, if a service member wants to complete an associate degree in civil technology from City Colleges of Chicago which is under contract to the Air Force, he or she must satisfactorily complete the 63 credits required by the school. Under the current contract between the Air Force and the 2-year school, however, the school is authorized to offer only 22 (35 percent) of the required credits. * * * The [remainder of the courses] must be taken through the University of Maryland.

Draft, p. 32. Emphasis added.

Thus, it is erroneous to imply that the Air Force system segments by program area, as that term is customarily used to refer to the entirety of a program, such as Civil Technology. Rather, the Air Force mode of procurement should be described as segmenting service by level of provider.

2. Most of the Differences Between the Air Force and Army Modes of Procurement Noted Approvingly in the Draft Report Arise Out of Contract Requirements Independent of Whether There are Single or Multiple Providers.

The draft Report cites approvingly a number of "improvements" in the Air Force mode of procurement, with the implication that these changes from present Army procurement policy are related to the fact that the Air Force uses the sole source delivery of educational services. We suggest

Now on p. 4.

Now on pp. 26-27.

that in fact the changes in procurement policy considered beneficial by the GAO are in most cases equally applicable whether the procurement is sole source or multiple provider in form.

A. Multi-year Contracts. Noting that the Air Force procurement "required a commitment on the part of academic institutions to offer educational services for five years," the draft Report concludes that "multi-year contracts benefit the servicemember and the [providing] institution" (Report, p. 28). The Report bases this conclusion on an analysis of prior practice, which the GAO construed as allowing institutions to discontinue the provision of educational services at their discretion. While in fact there are restrictions in the Army mode of procurement with regard to termination of services, certainly it is correct that the duration of commitment under that procurement is significantly less than what the Air Force now requires.

Now on p. 24

However, regardless of whether the procurement is for a sole provider or multiple providers, the Armed Services may reasonably require a multi-year commitment. The validity of this claim will be found in the fact that the primary providers of services under the old Air Force mode of procurement, which, like the Army, did not entail a multi-year commitment, agreed to the five-year requirement of the new Air Force contract. Therefore, we suggest that consideration of the beneficial effects of the Air Force's multi-year contractual requirement should be separated from consideration of the attributes of the sole source mode of procurement.

We note in passing that if one looks at the years since the report of the Council on Postsecondary Accreditation, the exact same institutions which offered undergraduate programs in 1980 have continued to offer programs to the present day. Long term stability or institutional commitment does not in fact appear to be a matter of serious concern. But even if it were, the Armed Services may by the terms of the procurement readily require longer-term commitments, regardless of whether the system provides for a single institution or multiple providers.

B. Inclusion of Academic Quality Controls. The draft Report cites approvingly provisions of the Air Force procurement requiring institutions to meet "specific quality-related requirements that had not existed in previous agreements used to acquire undergraduate education services" (Draft, p. 29). These requirements include the development and implementation of annual self-evaluation studies, assurance that instruc-

Now on p. 24

tors possess academic backgrounds appropriate to instruction at the home campuses, and provision of library materials to support the courses offered. These are salutary requirements, and we commend the Air Force for their inclusion in the procurement.

However, regardless of whether the procurement is for a sole provider or multiple providers, the Armed Services may reasonably require the inclusion of such provisions in any procurement of educational services. Indeed, prior to the initiation of the Air Force mode of procurement, the Army's Basic Ordering Agreement (BOA) was amended to incorporate two of the Air Force requirements, namely the annual self-evaluation studies and the academic requirements for overseas faculty, thus accomplishing the same end within the framework of the multiple provider system.

3. The Reduction by the Air Force in Required Average Class Size and Concomitant Requirement to Conduct Classes When Average is Met Substantially Skews the Comparative Data.

The draft Report cites without comment the action taken by the Air Force in negotiating its agreements to reduce the required average class size from 20 to 15, and at the same time to require a contracting institution to conduct all classes once the average is met. Conversely, if the average is not met, the contract allows an institution to request that the installation Education Services Officer "cancel a sufficient number of courses to raise the average to the contract minimum" (Report, p. 39).

Now on pp. 29-35.

First, the contractual class enrollment minimums are different under the Army and Air Force modes of procurement, thus diminishing comparability. (Depending upon the contract year, the Army minimum is either 15 or 12.) Second, and more significant, the manner through which the contractual minimums are applied under the two modes of procurement is fundamentally different. While under the Air Force contract the institutional provider is required to offer all courses at an installation once an average enrollment of 15 student per course is reached, regardless of the enrollment in any single course, under the Army contract an institution is required to conduct a course once the minimum enrollment is met for that course. While one may debate which contractual provision is preferable with regard to ensuring the maximum delivery of courses consistent with reasonable efficiency of operation, we suggest that the basic contractual difference between the Air Force and Army modes of procurement invalidates any comparisons with regard

to course cancellations. Notwithstanding the statistical implications of the difference in enrollment requirements, we suggest that such a contractual provision is entirely independent of whether the mode of procurement calls for a single provider or allows for multiple providers.

4. The Purported Reduction in Support Costs Under the Air Force Procurement Arose Out of Circumstances Unrelated to the Mode of Procurement.

The draft Report states that the Air Force has experienced a significant reduction in support costs since the inception of the single provider mode of procurement of postsecondary educational services. The Report does not, however, determine that the reduction is attributable to the sole provider system. We suggest that in fact there is no correlation. Rather, it is our understanding that the Air Force has for some time been implementing a methodical reduction in support services to institutional providers, including transportation, shipping and postage. Indeed, it appears that a measurable portion of the asserted reduction in Air Force support costs arose not as a result of a change in mode of procurement but rather due to funding shortages at the end of the fiscal year. For example, reimbursement for administrative travel has been totally eliminated during the last quarter of the past two fiscal years. Such budgetary constraints would obviously have the appearance of reducing support costs, without any relationship whatsoever to whether there are one or more providers.

5. There is No Statistically Significant Difference in Course Cancellation Rates Arising Out of the Air Force and the Army Modes of Procurement.

Now on pp. 29-35

The draft Report cites differences in cancellation rates under the two different procurement policies (Report, p. 36). However, the Report fails to adequately take cognizance of the difference in cancellation rates between the last year of the Air Force multiple provider mode of procurement (1983-84) and the first year under the sole provider mode (1984-85). In the case of lower and upper division undergraduate courses, where the greatest complaints have been heard regarding course cancellations, the net change was 0.2%. This is statistically comparable to the year-to-year change in course cancellations under the multiple provider mode of procurement as practiced by the Army during the same period.

6. The Reported Increase in Course Offerings Under the Air Force Mode of Procurement is Skewed by the Artificial Division of Responsibility Between the Two Classes of Providers.

Now on pp. 29-35.

The draft Report notes a substantial increase in undergraduate courses under the Air Force mode of procurement and a concomitant decrease in vocational education courses (Report, p. 38). We suggest that in large measure this change is the result of the reclassification as "undergraduate" of a large number of courses previously classified as "vocational" or otherwise unclassified. For example, the Chicago City Colleges have consistently classified all courses leading to an associate degree in law enforcement as vocational. However, under the Air Force system, law enforcement courses have been reclassified as part of the undergraduate general education program which must be offered by the four-year provider. We note that in the aggregate, there is no statistically significant difference in number of courses offered pre- and post-change in mode of procurement as compared to the unchanged Army system.

7. Reported Difficulties in the Start-Up of Certain Vocational Education Programs Are the Direct Result of the Artificial Bifurcation of Educational Programs Under the Air Force Mode of Procurement.

Now on pp. 27-28.

The Report notes difficulties encountered by the "new" vocational provider, the City College of Chicago, in starting up certain of the "more traditional vocational programs, e.g. welding, electronics and auto mechanics" (Report, p. 33). The Report further observes that prior to the bifurcation of the procurement, the City Colleges "had offered mostly lower level general education requirements and vocational programs that did not require extensive equipment and laboratories." We suggest that the implication regarding the capacity of the institution to properly service technically complex programs is misplaced. Indeed, the City Colleges of Chicago have had long and extensive experience in the European theater in the delivery of highly specialized vocational programs requiring substantial equipment, such as those in the Emergency Medical Services series. But we further suggest that the artificial division imposed by the Air Force mode of procurement, shifting responsibility for all general education away from community colleges and replacing that responsibility with what the Report gratuitously terms "traditional" vocational programs such as welding and auto repair, created a dislocation within the overseas structure of the City Colleges of Chicago

that could not be instantly rectified. This problem was exacerbated by extremely poor forecasting on the part of Air Force ESO's, who substantially overestimated demand for vocational courses, in some cases by a factor of three. Indeed, it appears that Air Force ESO's routinely characterized courses as "vocational" solely based on the fact that they had been offered by community colleges. Of course, with the sole provider system, a substantial proportion of these courses were in fact reassigned to the "liberal arts" provider, the University of Maryland.

We suggest that the relegation of community colleges to "traditional vocational programs" grossly distorts the role that these institutions have assumed over the past forty years. In truth, it is the nation's community colleges that are the most substantial provider of what the Air Force defines as "general education," and it is the community colleges that have by far the most extensive experience in providing such educational programs to adult learners. Leaving these institutions with "welding and auto repair" ignores the vast store of expertise and experience that they bring to their communities -- and have traditionally made available to the Armed Services.

8. The Information Adduced by the GAO Should Lead to the Conclusion that the Sole Provider Mode of Procurement is Inherently Less Cost-Effective than a Multiple Provider Mode.

Now on pp. 4 and 35.

The draft Report declines to make any recommendations regarding the use of a sole or multiple provider mode of procurement of postsecondary educational services, and suggests that more time is needed for policy makers to study the Air Force approach (Report, pp. 7a, 42). We suggest that the information adduced through the study is more than sufficient to demonstrate the fallacy in the arguments that the multiple provider mode of procurement is more costly to the government and to the servicemembers, that it results in excessive course cancellations, or that it adversely affects quality of instruction. In fact, the Air Force mode of instruction has resulted in significantly higher costs to the government and to servicemembers, it has not significantly affected course cancellations, and changes implemented by the Air Force to address quality issues are entirely independent of whether there are single or multiple providers.

Conclusion

Now on p. 4.

We do not disagree with the conclusion of the GAO that the primary factors to be addressed are "whether competition is needed in the selection of schools and whether there are unmeasurable advantages to having more than one institution offer the same or similar lower level courses" (Report, p. 7a). Certainly, we agree that institutions that wish to participate in the educational services programs of the Armed Services should be required to meet stringent quality standards, and we applaud both the Air Force and the Army for strengthening the quality control components of their respective procurements. But unlike most countries, the American system of postsecondary education is founded on the premise of market competition, with institutions actively competing to attract and hold students. This concept has resulted in a postsecondary system of unsurpassed quality and vitality, with a minimum of government intrusion. We contend that the GAO study in fact supports our position that quality and competition are not antithetical; rather, in the long run they are inseparable. When one adds the element of price competition, the conclusion is inescapable that the military adaptation of the traditional American system of market competition, as carried out by the Army, is preferable to the artificial monopolies created under the Air Force mode of procurement.

On behalf of Chancellor Rotella and President Warden, may we express our appreciation for the opportunity to comment on the draft Report, and for the extension of time granted the City Colleges of Chicago to obtain information for these comments from its European personnel. We commend the GAO for the fairness and reasonableness of its observations, and the evenhanded nature of its recommendations.

Sincerely,

Michael B. Goldstein
Attorney for the
City Colleges of Chicago

Encl.

cc: Salvatore Rotella, Chancellor, Chicago City Colleges
Mark Warden, President, Chicago Citywide College

GAO's Evaluation Standards Needs Assessment Checklist

To evaluate each service's needs assessment and educational planning process, we had to determine whether the needs assessments conducted by the installations were consistent with established principles of needs assessments. In consultation with Dr. Philip L. Doughty, chairman of the Instructional Design, Development, and Evaluation Program at Syracuse University, we developed an instrument to use in evaluating the scope and quality of educational needs assessments conducted by the military services in Europe. We based this "Needs Assessment Checklist" (see table IV.1) on evaluation standards developed by the Joint Committee on Standards for Educational Evaluation.[1] These are generally agreed-upon standards from the professional practice of evaluation. Stufflebeam suggest that the standards be applied when assessing the adequacy of needs assessments.[2]

Development of Checklist

The standards developed by the Joint Committee are grouped under four attributes or categories of evaluation: utility, feasibility, propriety, and accuracy. For each attribute, we selected, with the assistance of the consultant, the standards that best applied to the educational needs assessment context. We then developed questions to measure specific indexes of each standard. A positive response to a question indicated that the standard was being addressed in a service's needs assessment process. Table IV.1 presents each attribute, its definition, the standards that apply to the needs assessment process, and examples of the questions we developed for that standard.

[1]The Joint Committee on Standards for Educational Evaluation, Standards for Evaluations of Educational Programs, Projects, and Materials (New York: McGraw-Hill Book Co., 1981).

[2]Daniel L. Stufflebeam, et al., Conducting Educational Needs Assessments (Kluwer-Nijhoff Publishing, 1985), p. 181.

Table IV.1: Needs Assessment Checklist

Needs assessment attribute and definition	Standards and sample questions
Utility: To what extent does the needs assessment process focus on the appropriate population, address questions, obtain relevant information, report it clearly, and assist in the use of the information?	**Audience identification** - Audiences involved in or affected by the needs assessment should be identified so that their information needs can be addressed. 1. Does the needs assessment process identify the audiences that are involved in or affected by the voluntary postsecondary education program? 2. Does the needs assessment report state why these audiences are important? **Needs assessor credibility** - Those conducting needs assessment should be competent to perform the assessment so that their findings achieve maximum credibility and acceptance. 1. Can you determine who conducted the needs assessment? 2. Is there evidence that the person who conducted the needs assessment has experience in this area (e.g., educational background, job experience, needs assessment experience)? 3. Are resource materials (guides, handbooks, examples of surveys, etc.) available that can be used to help develop the needs assessment? 4. If yes, is there evidence that these materials were used in the needs assessment process? 5. Are there any military or nonmilitary staff who provide assistance or advice in designing and conducting the needs assessment? **Information scope and selection** - Information collected should be of such scope and selected in such ways as to address pertinent questions about the object of the needs assessment. 1. Are data collected from the following groups concerning their preferences for either specific programs or courses? Type of group a. Military servicemembers b. Civilian DOD employees c. Adult family members d. Base command e. Others (specify) Enrollment status f. Currently enrolled students g. Recently enrolled students h. All eligible persons

(continued)

Needs assessment attribute and definition	Standards and sample questions
Utility (continued)	2. If yes, do the preference questions/data focus on: a. Course preference only b. Program preference only c. Both course and program preference d. Course scheduling times e. Type of degree (i.e., associate, bachelors, certificate) f. Service-related skills, knowledge, and abilities (SKAs) g. Personally desired SKAs h. Other (specify) 3. Are data collected on how the educational program can help improve the lives of eligible participants? 4. Are data collected from the military command on how the educational program can help improve job performance and promotability? 5. Are longitudinal or historical data collected on: a. Programs b. Individuals 6. Are data on base population characteristics such as educational level/background, military/nonmilitary status, etc., collected? 7. Are the data collected in each category relevant to the overall objectives of the needs assessment? a. Preference data b. Longitudinal or historical data c. Population characteristics, data d. SKA data **Report clarity** - The needs assessment report should describe the group whose needs are being assessed and its location, and the purposes, procedures, and findings to ensure understanding of what was done, rationale, data sources, conclusions, and recommendations. 1. Is there a final report or summary of results on the needs assessment? 2. Are technical terms defined? 3. Are data displays understandable? 4. Does the report describe the characteristics of the population whose needs are being assessed? 5. Are the purposes of the needs assessment described in the report (i.e., why the needs assessment was conducted)? 6. Are the procedures followed during the needs assessment process described in the report (i.e., what was done)? (continued)

Needs assessment attribute and definition	Standards and sample questions
Utility (continued)	**Report dissemination** - Needs assessment findings should be disseminated to clients and other right-to-know audiences. 1. Are the findings of the needs assessment made available to: a. Military servicemembers b. Civilian DOD employees c. Adult family members d. Base command e. Headquarters command f. School representatives g. Others (specify) **Report timeliness** - Release of reports should be timely, so that audiences can best use the findings. 1. Are needs assessments conducted on an annual basis? 2. If not annually, are they conducted on a regular basis? 3. Is the needs assessment available before educational planning is completed by the base? 4. Is the needs assessment available before planning is completed by the schools? 5. Is the information from the needs assessment used in program development? **Impact** - Needs assessments should be planned and conducted in ways to encourage follow-through by members of the audience. 1. Is the needs assessment required by the branch of the military? 2. Is the needs assessment required by the base command? 3. Is the needs assessment conducted in accordance with the requirements of the military services? 4. At the service level, are there requirements stating that the needs assessment be used in educational planning? 5. At the command level, are there requirements stating that the needs assessment be used in educational planning? 6. At the base level, are there requirements stating that the needs assessment be used in educational planning? 7. Is there evidence that the information obtained in the needs assessment process is used in educational planning? 8. Is there evidence that the needs assessment influences program and course offerings?

(continued)

Needs assessment attribute and definition	Standards and sample questions
Feasibility: To what extent is the needs assessment process cost-effective and workable in real world settings? Is the process operable in the setting in which it is to be applied and is it realistic, prudent, diplomatic, politically viable, and frugal?	**Practical procedures** - The needs assessment procedures should be practical, so disruption is kept to a minimum and required information can be obtained. 1. Are the ESOs experiencing any of the following problems in administering the needs assessment? a. Insufficient time b. Insufficient other resources c. Analysis problems d. Reporting problems e. Access to respondents' problems f. Access to data problems g. Unclear definitions h. Unclear materials i. Response rate and/or representativeness problems j. Other (specify) **Political viability** - The needs assessment process should have sufficient support so that its purposes can be achieved. 1. Is there a statement, either written or stated in an interview, of the objectives of the base's voluntary postsecondary undergraduate education program? 2. Does there appear to be a consensus as to the objectives of the base's program by the various groups involved in the program? 3. Is there evidence that the various groups involved in the base's program agree as to the purpose of the needs assessment? 4. Are there requirements that staff other than the ESO participate in the planning/implementing of the needs assessment? 5. In the ESO's opinion, does the military command structure regard needs assessment as an important task? **Cost effectiveness** - The needs assessment should provide information of sufficient value to justify the resources expended. 1. Does the ESO have adequate, in his/her opinion, resources to plan and conduct the needs assessment? 2. Does the base command believe that the results of the needs assessment are worth the time and other resources required to conduct the study? 3. Does the ESO believe that the results of the needs assessment are worth the time and other resources required to conduct the study?

(continued)

Needs assessment attribute and definition	Standards and sample questions
Accuracy: To what extent has the needs assessment produced sound information? Are the data technically adequate and are the conclusions derived logically from the data?	**Group identification** - The group whose needs are being assessed should be sufficiently examined so that it can be clearly identified and characterized. 1. Are the beneficiaries of the educational program represented in the needs assessment? Type of group a. Military servicemembers b. Civilian DOD employees c. Adult family members d. Base command e. Others (specify) Enrollment status f. Currently enrolled students g. Recently enrolled students h. All eligible persons **Context analysis** - The context in which the population exists should be examined in enough detail so that its likely influences on the population can be identified. 1. Are data detailing basic demographic features of the military personnel on the base presented in the needs assessment? 2. Does the base provide an incentive, other than tuition support, to the military personnel to participate in the program? 3. Does the base command direct, in any way, the selection of programs or courses that individual military personnel take? 4. Is the mission of the base described in the needs assessment? **Described purposes and procedures** - The purposes and procedures of the needs assessment should be monitored and described in enough detail that they can be identified and assessed. 1. Does any group or individual with authority over the ESO monitor the planning, implementation, and reporting of the needs assessment? 2. Is there any written guidance available to the ESOs on methods of conducting a needs assessment? 3. Is there a description addressing how the needs assessment data will be used in the educational planning process? (continued)

Needs assessment attribute and definition	Standards and sample questions
Accuracy (continued)	4. Is there a description addressing when the needs assessment data will be used in the educational planning process? **Defensible information sources** - The sources of all information should be described in enough detail that the adequacy of the data can be assessed. 1. Does the needs assessment report indicate the size of the population eligible to participate? 2. Does the needs assessment report indicate the number of individuals from whom data were collected? 3. Is there a description of the specific data collection methods? 4. Are sampling procedures used? 5. If the report does not indicate whether their samples are representative or not, is there evidence that the samples are representative from other sources? **Validity** - The information-gathering instruments and procedures should be chosen or developed and then implemented in ways that will insure that the interpretation arrived at is valid for the given use. 1. Is there a correspondence between the types of data being collected and the overall objective of the needs assessment? 2. Is there more than one measurement method (e.g., survey and interview data review) used to assess educational needs? 3. Is there a statement as to what specific data are being used in the assessment process? (e.g., "what courses servicemembers want to take" or "program/area preference of study") 4. Are the data being used in the assessment process of the same type as the data being reported? (e.g., measuring course preference and reporting program preference, or measuring cancellations and reporting course dropouts) **Reliability** - The information-gathering instruments and procedures should be chosen or developed and then implemented in ways that will insure the information obtained is sufficiently reliable for the intended use. 1. Is there evidence that the instruments used in the needs assessment process were developed through a systematic instrument development process? 2. If more than one method of data collection was used to assess the same concept (e.g., assessing program preference with both survey and interviews), are the results similar? 3. Are the instruments and procedures used in the needs assessment process standardized (i.e., used each time an assessment is conducted on that base)?

(continued)

Needs assessment attribute and definition	Standards and sample questions
Accuracy (continued)	**Systematic data control** - The data collected, processed, and reported in a needs assessment should be reviewed and corrected, if necessary, so that the data/report of the needs assessment will not be flawed. 1. Is there evidence that the data being collected for the needs assessment are a. reviewed by other officials, b. checked for errors in recording results, and c. collected according to prescribed procedures? **Justified conclusions** - The conclusions reached in a needs assessment should be explicitly justified, so that the audiences can assess them. 1. Do the conclusions of the needs assessment match the objectives of the needs assessment? 2. Are the conclusions supported by the evidence presented in the needs assessment? 3. Do the recommendations follow quickly from the conclusions? 4. Does the needs assessment report indicate any limitations of the needs assessment (i.e., what was excluded, cautions, etc.)? **Objective reporting** - The needs assessment procedures should provide safeguards to protect the needs assessment findings and reports against distortion by the personal feelings and biases of any party to the needs assessment. 1. Are the needs assessment findings and report reviewed by other officials (other than the individual who conducted the assessment)?

Nine experts (see app. V) in the needs assessment and evaluation fields reviewed the Needs Assessment Checklist. They generally agreed that the evaluations standards developed by the Joint Committee were applicable to our purposes and that our checklist questions addressed the standards. Where appropriate, we revised the checklist in response to the reviewers' comments.

With the assistance of the consultant, we conducted a training session in which we reviewed the items for each standard with the GAO staff assigned to complete the checklist. Topics covered included (1) clarification of terms used in the items, (2) type of data that could be used to support a response to an item, and (3) procedures used to document the support for each response.

Use of Checklist

Data used to complete the checklist were collected at the 10 locations in Europe. The data included (1) responses to interview questions from relevant parties, (2) documents collected from both the institutions providing educational services and service officials in Europe and the United States, and (3) information gained from records at each of the 10 locations.

Two GAO staff members independently completed a checklist for 3 of the 10 locations. A third GAO staff person reviewed both checklists for the three locations to determine the degree of consistency between the two raters. Once the judgement was made that a checklist could be completed with consistency across different raters, one of the two raters then completed the remaining seven locations.

Experts Who Reviewed Draft Needs Assessment Checklist

— Dr. Michael S. Caldwell, Bureau of Educational Research, School of Education, University of Virginia

— Dr. Gary Gottfredson, Center for Social Organization of Schools, John Hopkins University

— Dr. Conrad Katzenmeyer, Office of Educational Research and Improvement, U.S. Department of Education

— Dr. Roger Kaufman, Center for Needs Assessment and Planning, Florida State University

— Dr. Charles McClintock, College of Human Ecology, Cornell University

— Dr. Jason Millman, Department of Education, College of Agriculture and Life Sciences, Cornell University

— Dr. Nick Smith, Instructional Design, Development and Evaluation, Syracuse University

— Dr. Daniel L. Stufflebeam, Evaluation Center, Western Michigan University

— Dr. William Trochim, Department of Human Service Studies, College of Human Ecology, Cornell University

Degree to Which Services Met Standards for Needs Assessment Adequacy

The degree to which standards for needs assessment adequacy were met by the individual services is shown in table VI.1. The percentages represent the number of positive responses to requirements included in the questions we developed for each standard. For example, the standard "information scope and selection" has 25 requirements with a total of 25 possible yes/no responses. The Army, with 4 locations reviewed, would have a possible 100 responses—4 locations times 25 requirements. In completing the needs assessment checklist for the Army locations, the Army had 79 out of the 100 possible responses rated yes, thus the Army scored 79 percent on this standard. The Air Force, on the other hand, scored 74 percent for this standard because it received 92 positive responses to a possible 125 responses—5 locations times 25 requirements.

Table VI.1: Adequacy of Needs Assessment by Three Services (Survey Responses)

Needs assessment attribute	Standard	Positive responses (percent)			
		Air Force	Army	Navy	Collectively
Utility	Audience identification	75	88	78	82
	Needs assessor credibility	88	90	80	88
	Information scope and selection	74	79	88	77
	Report clarity	78	72	50	73
	Report dissemination	42	39	55	42
	Report timeliness	76	75	40	70
	Impact	74	82	88	82
Feasibility	Practical procedures	28	58	60	33
	Political viability	74	66	86	70
	Cost effectiveness	20	9	0	13
Accuracy	Group identification	80	77	86	79
	Context analysis	55	44	50	40
	Described purposes and procedures	69	89	56	76
	Defensible information sources	69	77	71	73
	Validity	78	100	88	88
	Reliability	20	83	33	47
	Systematic data control	73	83	33	70
	Justified conclusions	55	81	30	65
	Objective reporting	95	50	75	60

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